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LECTURES ON VEGETABLE CHEMISTRY,

BY

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LECTURE XLVI.

THERE is a substance supposed to exist in vegetables as a distinct principle, to which the name of *extractive matter* has been given, and when we come to examine into its chemical habitudes, or rather into those which have been ascribed to it, we find that it partakes occasionally of the one, and occasionally of the other of the proximate principles of vegetables, and I do not know, therefore, under which head to advert to it. It is described as being soluble in water and alkalies, and insoluble in æther; but you must not confound it with what, in pharmacy, is called extractive matter.

The *bitter principle* is another substance obtained from vegetable substances, and it may be fairly regarded as one of their proximate principles. *Lignin* is the insoluble substance remaining after the vegetable matter has been extracted from the woody fibre, so that, ultimately, a woody fibrous substance remains, not soluble in alcohol or æther. Lignin agrees, in its composition, with the other vegetable principles, it is remarkable for its difficult solubility, and is therefore particularly unfit for nutrition; it exists more or less in most vegetable products, and may be considered as making up the main bulk of the vegetable tribe generally. On the solubility of vegetables, their nutritive powers are considered principally to depend, and in the table which you see here of some esculent plants, and roots, and grains, their relative proportions of soluble and nutritive matter, contained in 1000 parts of each of the substances named, are set down:—

One Thousand Parts.	Soluble or Nutritive Matter.	Starch.	Gluten.	Saccharine Matter.
Wheat	955	765	190	—
Barley	922	790	60	70
Oats	743	641	87	15
Peas	574	501	35	22
Potatoes	250	178	35	12
Carrots	98	3	—	95
Swedish Turnips ..	64	9	2	51
Common Turnips ..	42	7	1	34
Cabbage.....	73	41	8	24

So that you learn from this table which vegetable substances are most soluble, which contain most gluten, sugar, and starch or mucilage, and we can thus arrive at a knowledge of those which are most nutritive. The loss of weight in each is referable to water, and inert vegetable matter, possessed of the properties of woody fibre. You see that the loss is comparatively trifling in the wheat, whilst cabbage, turnips, and carrots suffer a very serious diminution, showing that their weight is principally made up of water.

Tannin is the astringent matter, which is

obtained by steeping catechu in cold water; catechu being the extract of an acacia, or of the extractive matter, rather, obtained from it. *Oak* bark derives its astringency from the considerable quantity of tannin which it contains, and all substances, fit for what is called tanning, contain this material. One distinguishing property of tannin is its power of precipitating animal jelly, so that if you take a solution of glue, or isinglass, or any of the common forms of jelly, and add a vegetable infusion supposed to contain tannin, an insoluble precipitate will be thrown down, as you see by this experiment. In galls there is a very large quantity of tannin, but it is combined with gallic acid and other matters, and in order to obtain it pure, you must have recourse to bruised grape seeds, which, when digested in cold water, afford tannin tolerably pure.

The composition of tannin is carbon, oxygen, and hydrogen; and to ascertain the quantity of tan in any substance, you must take a certain measure of any astringent vegetable infusion, and immerse a piece of dry, clean, and well-washed skin into it; this will absorb all the tan, and if you then dry the skin you will learn, by its increased weight, the quantity of tan contained in the infusion. Tan may be formed artificially, by digesting charcoal in dilute nitric acid; the charcoal is ultimately dissolved; it combines with the elements of the acid, and by evaporation, a quantity of an ash-coloured substance is obtained, which has all the leading properties of natural tan; but there is this difference between them, the artificial tan is not afterwards decomposable by nitric acid, whereas the natural tan is.

Colouring matter exists in a great number of vegetables, but we cannot fix upon any peculiar chemical substances to which the name of colouring matter can be given; it seems, sometimes, to be in the starch, and mucilage, and so on. Now, the chemical history of colouring matter is very important, as connected with the arts *of dyeing* and *calico printing*, and it will be proper to give you an outline of them.

First, it will be remembered, that the art of *dyeing*, in its simplest form, consists in immersing a piece of goods of any kind into a coloured bath. If you make a solution of indigo in sulphuric acid, and dip a piece of silk into it, that silk will come out blue, and it will retain its colour after it has been washed; but if you immerse a piece of cotton into it, the colouring matter might be washed out of it, and it would not be properly dyed. It may be right here to observe, that the different fibres, or structures, usually submitted to the process of dyeing, possess different attractions for colouring matter; so that, if you dip woollen cloths, silk, and cotton, or hemp, successively into solution of indigo, they will all come out blue; but the most colour will be retained by the wool, next by the silk, and the least by the vegetable fibre; indeed the vegetable fibre will not retain it scarcely at all, at least it may be readily washed out. You will observe, then, that in order to dye any substance *permanently*, it becomes necessary, in the first instance, to impregnate it with a body, which has a strong attraction for the colouring matter, so as to transfer it to the body to be dyed. There are several substances of this kind, but none more remarkable than aluminous earth. If you make an infusion of madder, or cochineal, and dip into it a piece of calico which has not undergone any previous preparation, it will come out of a red, or yellow colour, but if you expose it to the air, or wash it a little, the colour will be dissipated. If you previously impregnate it with a solution of pure alum, you find that a portion of the aluminous earth is retained by the fibre of the calico, and that, having dipped it in the colouring matter, you may wash it as much as you please, but it will not lose its colour. Alum has a strong attraction for colouring matter, and therefore, if you dip a piece of calico so prepared into a bath of colouring matter, the colour combines with the alum and the fibre of the stuff, and is thus fixed, or rendered permanent; and the substances which have this power of fixing colours are called *mordants* or *leaes*. Here is a solution of cochineal, to which I shall add a small quantity of alum and a little ammonia; you see thus the alum is precipitated, and carries with it all the colouring matter, leaving the fluid colourless. In the arts of dyeing, therefore, you generally find that the goods are dipped in certain solutions, previous to their being submitted to the colouring matter; take the dyeing of black as an instance. The goods having been steeped in a solution of galls, the astringent matter combines with a certain quantity of the fibre of the wool, and when sulphuric acid is added, a precipitation takes place of a black matter, which is attracted by the fibre, and the matter is said to be dyed. But you will see the value of mordants better in the process of calico-printing than in dyeing.

Calico-printing is the art of dyeing in spots, or patches; here you see a piece of printed calico, exhibiting various colours and patterns. Now, the whole secret of this consists in applying the aluminous mordants to particular spots; the whole piece is then dipped in a solution of colouring matter, and afterwards exposed to the air, and the colour is bleached away from the spots to which the mordant was not previously applied. Calico-

printing is a delicate art, requiring great nicety in the application of the mordants, which are usually put on by wooden blocks, in which the pattern is engraved in relief, and according to the mordant employed will be the colour produced, so that you may obtain two or three colours from the same colouring matter, by using different mordants. I can only give you the theory of calico-printing; but we have here a piece of calico or two dipped in some mordants, just to show you how the colours are got up. Here is a piece in which the pattern has been printed in an iron and in a copper mordant, and if we dip it into a weak solution of the prussiate of potash, the copper mordant will produce a brown, and the iron mordant a blue colour in the goods, and thus the printed patterns are brought out. Here are specimens of other mordants; here is a combination of iron and an aluminous mordant, bringing out a black and red, by being dipped in a solution of madder; but you have all the intervening portion of the calico of a dingy yellow hue, coloured with the madder, and therefore you must get rid of it by dipping it in a solution of brine and water, and then expose it on a bleaching ground, and this mixture of mordant has the property of heightening the colours very considerably. You observe, therefore, that calico-printing is the art of precipitating colours upon the fibre of the goods; that the various mordants are composed of various substances, capable of combining with the fibre and colouring matter; and that aluminous earth, and other substances, are commonly employed for this purpose. Now, there are various processes followed in order to produce greater efficiency in calico-printing; the production of a white pattern on a black ground is effected by printing the pattern in citric acid, mixed with gum, and then putting it into the colouring matter, which adheres to every part of the goods but the spots where the mordant is applied. The patterns are cut very finely in wood, and in copper still finer, and you must be convinced of the great dexterity of our manufacturers in using them by the delicate minuteness with which the patterns are produced, and by their beautiful colour. In the printing of what are called *chintzes*, a variety of mordants are employed, and of course great varieties of colouring matter.

Wax and *Oils*.—The next substances upon our list, wax and oils, belong to a class of vegetable products in which hydrogen predominates, and belong, therefore, to the inflammable bodies.

Wax is generally known as the product of the bee, but there is a *vegetable wax*, which has the same general properties; it is insoluble in water, but at 150° it is fusible, and at a higher temperature, is converted into a very inflammable matter, burning with as bright a flame as a candle. It mixes slowly with alcohol and æther, but readily with the fixed oils, forming cerates. The acids scarcely act upon it, and hence the value of wax as a lute to prevent the escape of acid vapours. Among the varieties of vegetable wax, we may place the wax which has been imported from Brazil, obtained from the berries of the *myrica cerifera*, and from the leaves of the *ceraxylon* of Humboldt. Here is a substance to which the name of artificial wax has been given, obtained by acting upon fixed oil with sulphuric acid. Upon the whole, however, vegetable wax is not a very important matter of commerce at present; but it may be obtained in such large quantities from some vegetables, in warm climates, that it may become a matter of importance hereafter.

The *fixed oils* are well known by their bitter taste, by their specific gravity being below that of water; they are obtained commonly by expression, and the greater number of them congeal above the freezing point of water, although they are usually liquid at common temperatures. Almond, linseed, olive, and other oils, are well known to be obtained by expression; some of the fixed oils are solid at the common temperature of this climate, and are called vegetable butters; you have an instance of this in cocoa-nut oil, and some others.

Now, it has been ascertained, that all oils may be regarded as being composed of two substances or principles; to the one the term *elaine* is given, as being the oily or fluid principle; and to the other, the term *stearine*, or the fatty principle. If you expose a jar of olive oil in frosty weather, you will have a substance precipitated, which is, in fact, the fatty principle, or the *stearine*, and a part will remain fluid, which is very difficult to freeze, this is the oily principle, or the *elaine*. So that you have these two principles in the oils, and it will be right to remember this, because when we come to speak of the action of alkalies upon oil, they will form an important matter of distinction in the formation of soaps. When you heat these oils, they show little inclination to volatilise, and hence the term *fixed*, which has been applied to them; but at high temperatures they do volatilise, and become converted into a highly inflammable vapour, burning, as you see, in the wick of the lamp in a bright flame. You know that the wick of a lamp serves no other purpose than to convert a portion of the air into vapour, which thus furnishes the flame. Exposed to air, some of these oils become rancid and dry, and are therefore called *drying oils*, especially linseed oil, which is used extensively in paints, and in printers' ink.

If you combine these oils with alkalies, you form *soaps*, and it has been imagined that you might separate these again into their original forms; but Chevreul has shown, by a series of elaborate experiments, that the elaine and stearine are altered from their original form by such combination, and are converted into two acids, the *oleic* and *stearic acids*. But without entering into these refinements, I may say, that the hard soaps are made by mixing soda with the oils, and the soft soaps by mixing potash with them. Soap is remarkable for its detergent and cleansing qualities, and in it you observe that the oil has lost its insolubility in water, and the alkalies have lost their causticity; the soap, when dissolved in spirit of wine, forms a jelly, and what is called opodeldoc is obtained in this way. When this solution is evaporated, it is sold under the name of transparent soap. The vegetable oils are used for the manufacture of the fine soaps, and the animal oils for the coarse, as fat, tallow, and so on, and occasionally a quantity of resin is added; thus coarse soaps are coloured with the oxide of iron, and have occasionally a mottled appearance. The common yellow soap is made of fat, alkali, and resin. There is an use occasionally made of a solution of soap, which is, to apply it as a test of the goodness of water, and of its fitness for washing. If you take a solution of fine soap in alcohol, and add it to rough water, a large precipitate is thrown down, which is a sulphate of lime for the most part; the lime combines with the oil, and forms an insoluble soap, and the alkali and acid combine to form a salt, whilst the oil floats upon the surface of the water. Whereas, if you add a solution of soap to distilled water, it remains perfectly clear; and the well-diggers generally employ this test for the softness of water. The term hard and soft water, like every other thing, must be used only relatively, as what we call hard water in London would be esteemed soft by persons where the water is harder, and *vice versa*.

Plaster, or *putty*, is a composition of oil and oxide of lead: to mix them it is necessary that water should be present, and then the hydrated oxide of lead combines with the oil at a temperature of 212°; it is sometimes called *lead plaster*.

Volatile Oils.—There is a class of oils to which the name of volatile oils has been given; they are obtained by distillation with water. If you put into a still a quantity of peppermint, you will have floating upon the water which passes over, a quantity of oil, upon which the odour and the pungency of the vegetable depends; but you are not to fancy, that because the oil comes over readily with the water, that it distils easily, for that is not the case. Some of the oils require a temperature of 600° to distil them alone, but they come over with great facility when mixed with water. They possess considerable volatility, so that if you rub a little upon a piece of paper, it will easily dissipate by the application of the lamp, and this test would render it easy to detect the adulteration of the essential with the fixed oils, as in that case the greasy spot would remain upon the paper after the heat has been applied, as you see in the present instance. There is an adulteration to which these oils are liable, namely, their mixture with alcohol; but you may readily detect that by adding water, which will abstract the alcohol, and the diminution in bulk which the oil suffers, will enable you to judge of the extent of the adulteration. It was supposed that it was a test of the purity of the essential oils to try their solubility in spirit of wine, but the adulterators discovered that castor oil was also soluble in spirits of wine; this, however, you may readily detect, by evaporating it on paper in the way already pointed out.

Some of these oils possess peculiar properties; they often appear to contain the odoriferous parts of vegetables, and some of them are exceedingly delicate and fugitive in their nature, such are the oils of the jessamine and rose, and to separate them, distillation cannot be resorted to; but the flowers are steeped in a fixed oil, and then by mixing alcohol with this oil, the essential oil is dissolved, and the fixed left.

Camphor may be considered as a concrete essential vegetable oil; it is very odorous, and sparingly soluble in water; and you well know that the aromatic waters in pharmacy, are solutions of the volatile oils in water. When camphor is distilled with nitric acid, it is converted into a peculiar vegetable acid called *camphoric acid*, and it unites with certain bases, forming camphorates, which possess little or no interest. There is a substance called *artificial camphor*, obtained by acting upon oil of turpentine with chlorine, but the compound always retains chlorine, and may be resolved into its elements.

The *resinous substances*, which form an important class of vegetable products, are inflammable and fusible at moderate temperatures, and are chiefly characterised by their insolubility in water, by their being readily soluble in spirit, and by their spirituous solutions, being again precipitable on the addition of water. These precipitates used formerly to be used in pharmacy under the name of *magisteries*; so that there was the magistery of Benzoin, and so on.

The resins combine with the alkalies, and form a curious class of compounds, which might be termed resinous soaps. Some of the resins contain *Benzoic acid*, and may

be made to furnish crystals of that substance; these resins have been called *balsams*; such are Styrax, Benzoin, and balsam of Tolu; there are others again which appear to be composed of resins and volatile oils, and these have improperly been also called balsams; as balsam of Copaiba, of Peru, Canada balsam, and so on. There are some peculiarities in some of the resins, which have induced chemists to designate them by their particular tints, as Guiacum, and a few others. Then you have a great variety of compounds containing resin and gum, and these are called *gum-resins*; such are olibanum, camboge, asafœtida, and so on, which are insoluble, or imperfectly soluble, in alcohol and water; the alcohol takes up the resin, and leaves the gum, and the water takes up the gum, and leaves the resin; so that what is called an aqueous solution of these bodies, is merely a suspension of the resinous parts in the gummy solution.

There are two or three curious and interesting bodies to be described, because they have been designated as the *active principles* of certain vegetables, such are morphia, and strychnia. I shall give you a brief account of them in the next lecture, and then proceed to the *vegetable acids*.

Lecture XLVII.

On Bitumen; on the active principles of Plants; and the vegetable Acids.

Bitumen. There is a class of fossil substance to which the name *bitumen* has been given, resembling, in some respects, the oily and resinous bodies, and there are several varieties. Such are *naphtha, asphaltum, petrolium* or mineral tar, *maltha* or mineral pitch, and so on. *Naphtha* is an odorous, oily fluid, found frequently on the borders of the Caspian Sea, and in some springs in the neighbourhood of volcanos. It is volatile and very inflammable; when pure it seems to contain no oxygen, and is therefore a convenient fluid for the preservation of potassium and other readily oxidisable metals. *Asphaltum* is found on the shores of the Red sea, and in the island of Trinidad; it is of a brown or black colour, heavier than water, and soluble in naphtha. Here is a portion of a substance which seems to denote that these bituminous substances are of a vegetable origin; it is found in the coal beds, and it appears to be a portion of resin converted into bitumen. Here is a specimen of *mineral fat* found, by Mr. Hatchett, in different kinds of iron clay. There are a variety of substances combined with bitumen and carbonaceous matter, forming *coal*, of various degrees of purity. Some coal leaves scarcely any ashes; it puffs up and swells in the fire, and its residue is trifling; but our coals, in common use, leave an abundant earthy matter behind, and if urged in a strong fire they run into clinkers. There is evidently a portion of nitrogen in coal, as by distillation ammonia is produced; but whether the nitrogen is furnished by the coal, or by the application of air, has been a question; but when it is considered that ammonia is produced when coal is distilled in close vessels, nitre must be regarded as one of the components of common coal.

Peat and *turf* are substances which have undergone less change than coal, and in them the vegetable fibre is less destroyed. With regard to coal, I think there can be little doubt that it was of vegetable origin; but how the change was effected, or how the strata of coal were formed, are matters not so easily determined, and belong rather to the geologist than chemist to solve: that it is so, I think must be conceded from the immense masses of vegetable matter found in it, in states of change intermediate between charcoal and coal, and between resin and bitumen.

Among the proximate principles of vegetables there is a set of bodies called *vegetable salifiable bases* and *vegetable acids*.

In regard to the vegetable salifiable bases, they are substances found to possess certain characters common to the alkalies; thus many of them turn vegetable blues to green, and yellows to brown; they combine with and neutralise the acids; and, like the other vegetable proximate principles, are compounds of oxygen, hydrogen and carbon, to which, in all cases, I believe nitrogen to be superadded. Such is the nature of this ultimate composition.

Morphia. The first of these bodies, accurately shown to exist, was obtained from opium; and as it was afterwards found that the leading narcotic character of opium depended upon it, the term morphia was applied to it, and it was obtained by the simple process of triturating powdered opium into a paste with dilute acetic acid, by pouring caustic ammonia into the filtered solution, and by evaporating it; a brownish precipitate is thrown down, which, by repeated solutions in spirits of wine, may be rendered colourless, which is found to be pure morphia, the substance to which the active power of the opium is referable. It may be obtained in the crystalline form from the alcoholic solution in quadrangular and octoëdral crystals; it is fusible and combustible, and appears, in some respects, to possess the character of an alkali, reddening turmeric paper, and forming salts by uniting with the acids. It is sparingly soluble in water; it is intensely bitter, and it is very poisonous. Some of these salts are used in medi-

cine, and one of them, the acetate, appears to have gained some celebrity as a narcotic; they all have a bitter taste, and are decomposed by the addition of ammonia.

Now, with respect to the number which represents it, it is 325, which is a remarkably high number, when taken in conjunction with its small saturating powers. Fifty parts of acetic acid are found to require 325 parts of morphia to form 375 of the acetate of morphia; and 40 of sulphuric acid combine with 325 morphia, to form 365 sulphate of morphia, and so on. This substance appear to be combined in opium with a peculiar vegetable acid, to which the name *meconic acid* has been given; and it has been stated, therefore, that opium derives its activity from the presence of a *meconiate of morphia*. There is another principle on which the strength of opium is said to depend, called *narcotine*, which is obtained by digesting opium in cold æther, and evaporating the solution. It is a substance not sufficiently examined; and I merely allude to it now as constituting one of the vegetable principles of opium. In a practical point of view, however, I am inclined to put little importance on the discovery of these salts. It has been found to be very uncertain in its effects; and I think that it would be safer to trust to the action of the pure drug, than to morphia.

The case is very different with a set of substances found in the Peruvian bark, of which you know there are three kinds in use in this country; the *cortex lancifolia*, or pale bark, called also Peruvian bark, and commonly employed under the name of *bark* in certain stages of intermittent fevers, and as a general tonic; then the *cortex oblongifolia*, or red bark; and the *cortex cordifolia*, or the yellow bark. In the cortex cordifolia and lancifolia, two distinct vegetable principles, of an alkaline nature, have been discovered, to which the names of *cinchonine* and *quinine* have been given. In the red bark, and some spurious kinds, it has been found that there is a combination of these two substances.

The separation of the *cinchonine* from the *cortex lancifolia*, and of the *quinine* from the *cortex cordifolia*, is a very simple operation; there is some difficulty, especially when carried on in the large way, to ensure the utmost product; but, upon the whole, the process is very simple, and consists in digesting the bark coarsely powdered in weak sulphuric acid, and then to repeat this digestion as long as you can obtain any soluble matter out of the bark; so that you procure a considerable quantity of decoction of bark, and there remains little else than the mere woody fibre. This decoction is intensely bitter; and it occurred to Pelletier and Caventou, and I think that the discovery is one which ranks among the first of modern chemistry, that there might exist in this solution a peculiar body united with the sulphuric acid, which they thought might be the active principle of the bark. They added to this decoction of bark, a small quantity of quick-lime; the lime combined with the sulphuric acid to form a sulphate of lime, and there was thrown down with it a difficultly soluble substance, which was the body they were in search of. The matter thus thrown down is to be washed, and then you add alcohol to it, which takes up the cinchonine, but will not dissolve the sulphate of lime, and you obtain the cinchonine pure. By repeating the solution once or twice, and crystallising, you obtain the cinchonine in a perfect state. This solution in alcohol is intensely bitter; it furnishes crystals, which are small and irregular. Now having obtained it in its crystalline state, you may combine it with acids, and form a class of salts. The number representing cinchonine is 315, which is very high; it combines with sulphuric acid to form a dry sulphate of cinchonine, 40 parts of acid uniting with 315 parts of cinchonine, to form 355 sulphates of cinchonine. Now the most important fact connected with this discovery is, that, in this cinchonine, we have the real active principle of the bark divested of all the dead woody fibre, which renders it invaluable as a medicine. I cannot pretend to say exactly, what quantity of the sulphate of quinine is to be considered adequate to a given quantity of bark; but I believe that *one grain*, or a grain and a half, is equivalent to a *drachm* of bark, and you get rid of the necessity of swallowing a quantity of inert powder, which you know often renders this medicine invaluable, especially with children. Thus you have, in the preparation of this substance, an important chemical fact developed; and we are taught, in the first place, that the active principle of a powerful vegetable may be obtained in the insulated state, and that we may depend upon it as upon the bark itself; and as it has been applied with the same success in the cure of intermittent fever, there can be no reason for rejecting cinchonine from medical practice, although it is not at present much used. We use quinine more than cinchonine; because the yellow bark, from which it is procured, is more plentiful; the quinine, therefore, is cheaper than cinchonine, and is just as useful. To obtain it, you proceed just in the same way as with the former; you grind the yellow bark into a coarse powder, and digest it in a weak solution of sulphuric acid, an acid that is about the strength of vinegar to the tongue; you heat it a time, and procure a precipitate, which you afterwards dissolve in alcohol, and thus

you obtain the pure quinine. The quinine is not crystallisable; but, on the application of heat, it runs down into a kind of paste. It is intensely bitter, and forms with the acids a set of crystallisable salts. If you digest it in a weak solution of sulphuric acid, you get the sulphate of quinine, which is the salt now generally used for medical purposes; it crystallises in four-sided prisms. Here is some quinine, which I dried very carefully under the exhausted receiver of an air-pump; and you see that it is a white pulverulent substance, not easily soluble, and therefore not affording a very bitter taste; but if you add a drop or two of acid to it, these become intensely bitter to the tongue, because more soluble. The neutralised sulphate of quinine is not very bitter, and you should be aware of this; because I have known medical men suspect that the sulphate was adulterated, because it did not taste bitter. There is also a *bisulphate of quinine*. It has been mixed with a great variety of substances; as sugar, starch, sulphate of magnesia, sulphate of lime, and so on, to add to its weight; for when I tell you that the average price is thirty or forty shillings per ounce, it is not very surprising that some persons should be tempted to do this, as it is a substance well fitted for adulteration.

To determine its purity, the simple process of heating it is sufficient; if it evaporate entirely, without charring and melting, it is pure; but if it should turn black, or smell sweetish, you may suspect that sugar or starch is present. I have sometimes found lumps of pipe-clay, and various other substances, mixed with it; so that when you are purchasing it in large quantities, you must be upon your guard. Its number is 360, or thereabouts; that is to say, the dry sulphate, the crystallised sulphate is represented by the number 372.

The other bodies of this class are not of any great importance, *strychnine*, the active principle of the bean of St. Ignatius, resembles, in many of its properties, the substances I have described. It has a high equivalent number, unites with the acids, and is very poisonous. *Brucine* is a substance lately discovered by the French, but I cannot make out whence they obtain it; they tell us that it is procured from the angustura bark; but it is well known, that what is called angustura bark in the market, often proves to be a species of strychnine. It is certainly not obtained from the angustura bark.

Vegetable Acids.—The vegetable acids are very numerous, and I shall endeavour to point out the properties of some of the most important.

We are indebted for the knowledge of many of them to Scheele; he pointed out the mode of obtaining the *tartaric acid* in its pure form. In order to obtain it, cream of tartar, which is a supertartrate of potash, is decomposed by chalk; thus you procure a tartrate of lime, which is again decomposed by sulphuric acid. Then, by evaporating the aqueous solution from which remains, from the decomposition of the tartrate of lime, you obtain an impure tartaric acid, which, by repeated solutions, may be procured perfectly white, and may be crystallised in six-sided prisms. To give you a notion of the manner of decomposing the tartar, to obtain tartaric acid, of the quantities of materials necessary, you need only to look at this table; you see that 182 parts of tartrate of potash will require 50 parts of chalk to convert it into 95 parts of tartrate of lime, composed of 67 tartaric acid, and 28 lime; this again requires 49 parts of liquid sulphuric acid to separate the lime to form 68 parts of sulphate of lime. The equivalent of tartaric acid is 67; it combines with the different bases, constituting a class of salts called tartrates, some of which only are used in medicine, as the tartrates of soda and potash, the bitartrate of potash, or cream of tartar, as it is usually called, the tartrate of iron, and a few others. Tartar is originally a deposite during the fermentation of wine, when it is thrown down in an impure state, under the name of *argil*; but by boiling it in solutions of aluminous earths, or with whites of eggs, it is freed from much of its vegetable colouring matter, and then you obtain the bitartrate of potash, or *cream of tartar*. Here are different specimens of the tartrates on the table.

If you saturate the excess of tartaric acid in the cream of tartar with soda, you then obtain a singular salt, formerly called *Rochelle salt*, or *sel de Seignette*. Now with regard to this salt, it is a compound of tartrate of potash, tartrate of soda and water; and it consists of one proportional potash, one of soda, two of acid, and one of water, in its crystallised state, and its equivalent number is 286. It is a salt only used in medicine as a saline aperient, but almost all such salts have been superseded by the sulphate of magnesia.

Tartrate of lead is procured by adding a solution of tartaric acid to a solution of lead, and when this salt is calcined, a bluish powder is obtained, which takes fire when exposed to air; and it is a curious circumstance, because one can detect nothing in it that can explain such phenomenon, except that the lead is in a state of minute division, and, by exposure to air, it absorbs oxygen with such rapidity as to take fire. You see that when I turn some of the powder out of the bottle, it is pyrophoric, and this powder is simply a calcined tartrate of lead.

A very important salt connected with the

tartrate of potash, is the *tartrate of antimony and potash*. When the protoxide of antimony is boiled with the bitartrate of potash, the excess of acid takes up the protoxide, and forms a triple salt, a tartrate of antimony and potash, which crystallises in tetraëdral crystals, and I have here crystallised a portion to show its distinct figure. It always ought to be crystallised before it is used as a medicine, as you are otherwise never sure of its composition. It is called *emetic tartar*, or, in the Pharmacopœia, *antimonium tartarizatum*; it is composed of one proportional acid, three of protoxide of antimony, two of tartrate of potash, and three of water, and its equivalent number is 363. These are its elements, and it is a most important salt, and appears to me to be the only salt of antimony essentially necessary in the practice of physic. The antimonial powder and other preparations are very uncertain in their composition, and consequently in their effects, as I have already pointed out.

Oxalic acid was formerly derived entirely from the juice of a vegetable, the *oxalis acetosella*; but is now easily obtained, by acting upon sugar with nitric acid; the sugar is decomposed, and so is the acid. You mix together about four ounces of nitric acid, two ounces of water, and one ounce of sugar, and after the effervescence has subsided, the solution will deposit about half an ounce of crystallised oxalic acid, which is composed of carbon and oxygen, and, in its dry state, appears not to contain any hydrogen. In its crystalline state it contains water, and then, of course, involves hydrogen as one of its elements. There is something very curious in the composition of this acid; if you take the dry acid, you find that it consists of equal proportionals of carbonic acid and carbonic oxide, containing 6 carbon, and 30 oxygen, so that its equivalent is 36; whilst, in its crystalline form, it combines with four proportionals of water 36, and its equivalent is then 72. It combines with various bases, forming *oxalates*, but particularly with lime, and hence forms a good test for the presence of lime, and a remarkably nice test it is. If you wish to ascertain whether spring or mineral water contain lime, the oxalate of ammonia is best for the purpose, which, being added to the water, combines with any lime it may contain, and falls down as an *oxalate of lime*; and if you wish to know how much lime is deposited, you burn the lime, the oxalic acid is driven off, and the lime is left.

Oxalic acid is well known as a violent poison; whether any of the other vegetable acids would be poisonous, if taken in large doses, has not been ascertained, but oxalic acid has probably been used very frequently as a poison, in consequence of its great resemblance to Epsom salts, for which it is often mistaken. You know that when a large quantity of the acid is swallowed, and has remained a long time in the stomach, it is generally fatal, but if it be discovered in time, and vomiting be immediately excited, there is little danger. The best method of neutralising the acid is to mix up a quantity of whitning in warm water, and giving the patient large draughts of it; it generally produces vomiting, and is sure to render the acid almost inert, by converting it into an oxalate of lime. If you cannot get whitning, you can generally get soap and water, which you should make the person drink; the alkali of the soap neutralises the acid, and the mixture acts at the same time as an emetic.

Citric acid is obtained from lemon juice, by a method very similar to that of obtaining tartaric acid from tartar. It was discovered by Scheele, and its number is 58, in its dry state; when crystallised, it contains two proportionals of water 18, and is there represented by the number 76. The *citrates of potash* and ammonia are frequently used in medicine.

Malic acid is found in apples; it is obtained by decomposing the *malate of lead*; it presents nothing very interesting or important; it is one of the acids which will not crystallise.

These acids, the citric, malic, and tartaric, are found in many fruits; the orange and lemon contain citric acid; the gooseberry, currant, and apple, malic acid; the grape furnishes tartaric acid, and so on.

Gallic acid.—There is an acid which is found in the gall nut, which combines with tan; it is called Gallic acid; it unites with bases forming a class of salts, the *gallates*, and we know that solutions of galls, when added to metallic solutions, precipitate a great many of them of a black or of a blue colour; the per-salts generally blue, and the proto-salts black. You must remember that no excess of acid must be present in the salts which you wish to precipitate, for if there is, the precipitate will not be formed, since it is soluble in the acids; and when we talk of precipitating solutions by tests, it is always necessary to take into account the circumstances under which they are applied.

Benzoic acid.—Of Benzoic, the last acid upon our list, I have nothing to say, except that it may be obtained by heating benzoin and in the crystallisable state. It unites with bases, forming a class of salts called *benzoates*, which are of no use. It is usually sublimed into paper cones; and it is soluble in alcohol.

In the next lecture we shall commence with the subject of *fermentation*.

FOREIGN DEPARTMENT.

FATAL ABSCESS OF THE NECK, IN CONSEQUENCE OF A BONE BEING SWALLOWED.*

The following case was recently read to the faculty of medicine of Paris, by Dr. Gibert:—

A young man, twenty-four years old, swallowed a piece of bone, which gave him very severe pain in traversing the pharynx; he thought, however, that the bone had descended into the stomach since attempts had been made to push it down with a probang, and food had been swallowed since. The pain, however, continued in the part of the neck where it first began, and it increased so, that it soon became impracticable to swallow. Symptoms of œsophagitis came on, which were treated with general and local bloodletting. On the seventh day, the patient, in a slight effort of vomiting, brought up a small portion of bloody and purulent matter; and in the stools, globules of pus were recognised. It was suspected that an abscess had formed, and that the matter was evacuated by the stools; the pain ceased; the patient could drink with ease. At the end of two days, an attack of fever came on, which, on the thirteenth, terminated fatally.

On opening the body, it was found that, at the junction of the pharynx with the œsophagus, the mucous membrane had been traversed by a bone which had given rise on the left side of the neck, under the deep layer of muscles, to a large abscess, in which the bone could be distinguished. M. Gibert cited two analogous cases; one of which was communicated to him by Dr. Corby, and which terminated fatally; the other by M. Fillean, in which the bone fortunately descended into the stomach, and escaped per anum, but was not extracted from this opening, without a great deal of pain.

* Archives Générales de Médecine. Mai, 1828.

CASE OF CONTINUED PRESSURE ON THE MEDULLA OBLONGATA. BY PROFESSOR LENHOSSEK.

(*Med. Jahrbuch des K. Oesterich. Staates.* tom. iii. cap. 1.)

A young man, twenty-four years of age, was found dead in the public road, without the least trace of violence being perceptible on the body: he was thin, not taller than a lad of twelve years, and presented no signs of puberty, either on the face, or the organs of generation. The bones of the cranium were thick, as compared with the development of the other parts of the body; the meninges were gorged with blood; the cerebral substance was hard, and contained a good deal of blood; each lateral ventricle contained half an ounce of serum. The odontoid process of the second vertebra was preternaturally long; the head of this process was more developed than usual, and its apex was attached to the edge of the foramen magnum, by means of a ligament directed horizontally forwards. In consequence of this anormal condition of the parts, the occipital foramen was contracted one half, and, consequently, the medulla oblongata compressed and impeded in its development. The right lung was moreover œdematous, and the left adhering to the parietes of the chest. The heart was very large, and covered with fat. The liver and spleen adhered to the parietes of the abdomen, and the stomach was distended with a quantity of aliment; its internal coat was red.

For several years this lad had been subject to a great deal of anxiety, and also to such loud palpitations of the heart, that they could be heard at a distance. Death, in this instance, was the result of apoplexy. Professor Lenhossek attributes the continuance of childhood in this case, and the other affections, to the size of the odontoid process; but it may well be doubted, whether the large development of the process was not rather an effect, than the cause of a diseased state of body, viz, of rachitis.

SUPPRESSION OF THE SECRETION OF URINE FOR MORE THAN SEVEN WEEKS.

(*Journal der Pract. Heilkunde.*)

Dr. Raeum, of Riga, relates a case of this nature, which he observed on a child of twelve years; the secretion of the urine was suppressed, without the general health of the child being disturbed; and, on introduction of a catheter, not a drop of water escaped. The secretion of the urine returned, with the administration of turpentine and balsam of copaiba, and frictions, with oil of turpentine in the lumbar region.

DESCRIPTION OF CERTAIN ORGANS IN A YOUNG LION. BY DR. JOS. JUL. CZERMAK, DEMONSTRATOR OF ANATOMY.

*At the University of Vienna.**

The following parts were attentively examined by Dr. Czermak, in a lion four days after birth, viz., the pupillary membrane, the Eustachian valve, foramen ovale, and

* Med. Jahrbück, desk. oester. Staates; t. iii. cah.

ductus arteriosus. The pupillary membrane was visible, but was only formed of one layer. Its anterior and posterior surfaces were lined by the membranes of the aqueous humour.

The membrana pupillaris materially assists in the secretion of the aqueous humour; its vessels are more numerous, in the fœtus of the lion, than in the human subject. The vessels, which pass to the centre of the pupillary membrane, do not arise from the ciliary arteries, in as regular a manner as in the human eye; they anastomose freely with each other and the vessels of the iris, and form a true vascular net-work. It may be seen, and without any difficulty, that the tissue of the iris does not pass into that of the pupillary membrane. In the centre, the author has seen the vessels fold back to the internal edge of the iris, from which it may be concluded, that these vessels form the small vascular circle of that membrane. The pupillary membrane disappears when the animals open their eyes, which takes place from the 12th to the 18th day. The author thinks, from these facts, that the fœtal circulation continues longer in animals than in man. M. Cuvier denies the existence of the valve of Eustachius in the lion; but the author describes a part which he believes analogous to it.

A WOMAN WITH THREE BREASTS. BY DR. H. L. DREGER.*

This woman, at her first accouchement, had, beside the two natural mammæ, which were well filled with milk, a third smaller one, but quite similar in form, and situated under the left breast; it extended from the 6th to the 8th rib. There was no areola, but a nipple, from which, on slight pressure, a considerable quantity of milk escaped. The milk flowed spontaneously, as long as the child sucked at the upper breast. The nipple was a kind of *nævus*, presenting in its centre an opening, with which several lactiferous canals communicated.

MIDWIFERY.

To the Editor of THE LANCET.

SIR,—In compliance with the request of the Gentlemen attending my class, I inclose you a copy of an Introductory Lecture I delivered on Midwifery, a few days ago, at the Central Infirmary and Metropolitan Lying-in Institution, Greville Street, near St. Bartholomew's Hospital. Another reason that induces me to send this communication is, that it contains a concise, though perfect, history of the rise, progress, improvement, importance, and utility of this branch of medicine, and also the universal sanction it has received from mankind in the past ages, and present most enlightened times. From the historical sketch afforded, it is evident that the diseases incident to females, in every period of life,—before conception, during pregnancy, at, or during the process of childbearing, and after delivery,—were attended to by many of the most eminent physicians and surgeons in ancient and modern times, and were not despised or neglected, as some few persons of antiquated and obscurated ideas would endeavour to lead the public to imagine.

Should you think this production worthy of a place in your highly useful and very valuable Journal, I shall feel obliged by its insertion when convenience will permit.

I am, Sir, your obedient servant,
M. RYAN, M.D.,
Member of the Royal College of Surgeons.

68, Hatton Garden,
May 21, 1828.

INTRODUCTORY LECTURE TO THE THEORY AND PRACTICE OF MIDWIFERY.

BY DR. RYAN.

Delivered at the Central Infirmary and Dispensary, Greville Street, Hatton Garden.

GENTLEMEN,—In commencing a course of lectures on any art or science, it is usual to make a few preliminary observations, on the utility and importance of the subject, and also on the arrangement, or classification, of the matter intended to be adopted in the subsequent discourses. In compliance with this ancient usage of medical teachers, I proceed to make some remarks on the subject of which I mean to treat, namely, on that branch of the healing art denominated Midwifery, and on the qualifications and duties requisite for the accoucheur, as well as for all medical practitioners.

It is now very generally admitted, that every class of medical practitioners must be intimately acquainted with all the branches of the art and science of medicine, namely, the theory and practice of medicine, surgery, midwifery, and pharmacy; and that he who does not acquire this universally-established course of education, will be sadly embarrassed in his future practice—will find himself continually disappointed in

* Hygea; juill. Sept. 1827.

his opinions and exertions; and, what is still more afflicting, will incur an awful responsibility, by undertaking the management of many diseases of which he is ignorant, and, consequently, excluding duly qualified men from the treatment of the sick, and thus being, virtually, the cause of extinguishing many lives. No conscientious man can reconcile this great responsibility with the civil, moral, and religious obligations required of medical men by the most improved and enlightened society of modern times. No matter how absurd, or unnatural, the ancient subdivisions of medicine into different professions may be—divisions, be it recollected, that took place in the darkest ages, when literature and the sciences were involved in the most profound obscurity and utter debasement—it is now, I say, universally admitted, by all the most enlightened and impartial medical men, that the different branches of the healing art are not only indivisible, but so intimately connected and dependent on each other, that the perfect knowledge of each and all is absolutely indispensable to the medical practitioner, whether physician, surgeon, accoucheur, or general practitioner; he cannot otherwise practise with a safe conscience, or with satisfaction to himself, or with even probable benefit or impunity to his patients. The line of distinction fruitlessly attempted in the study of medicine and surgery, serves neither, but is a positive injury to both; for the healing art is one, and therefore those who advocate the necessity of separate study, advocate both ignorance and darkness. In further proof of this assertion, we now observe that every branch of the healing art is taught at our numerous schools of medicine and surgery, a system further adopted in all the distinguished colleges and schools in the polite nations in the vast continents of Europe and America. The most eminent and distinguished members of the different professions of medicine, in every country, also recommend this system of acquiring medical knowledge, which is not more compatible with medical experience than with the reason and common sense of mankind in all ages. Thus Moses, the most ancient historian, informs us, in the Book of Genesis, chap. l., (A.M. 2315, A.C. 1689,) "That Joseph commanded his servants, the physicians, to *embalm* the body of his father;" an operation which was consigned to the surgeons in all the subsequent ages, and so continued to the present time. This is the first and most authentic account of physicians; but the same inspired and most ancient historian, in the 35th and 38th chapters of the same book, speaks of midwives; and hence it would appear, they were anterior to the male practitioners of the healing art. Medicine, however, is decidedly the most ancient of all the arts and sciences, as it originated from the innate principle of self-preservation. It was nearly coeval with man, in consequence of the calamities entailed upon him by his fatal disobedience, namely, the deprivation of eternal life, the liability to corporeal diseases, and to death itself. The vicissitudes of season, the varieties of climate, the influence of the circumambient atmosphere, the action of surrounding bodies, and the construction of the human frame, must have rendered diseases nearly coeval with mankind. The presence of bodily infirmity produces pain, and impels man to seek immediate alleviation, and to employ means for that purpose, either by instinct, experiment, or spontaneous exertion. The many injuries to which he was exposed in the early ages, must have frequently obliged him to suppress hæmorrhage, to remove the deformity of dislocation, and to adjust the painful fracture. Thus an early necessity conceived the various branches of the healing art, reason nourished them, long use promoted them, experience, at length, completed them, and made them absolute.

In the early ages medicine was promiscuously practised, every man being his own physician and surgeon; but it soon became a liberal art, and was practised by certain individuals only, some of whom were appointed for the treatment of particular diseases, others for diseases in general. Thus they had oculists, aurists, dentists, hepatists, lithotomists, midwives, chiropedists, &c. &c. according to Herodotus, Pliny, and Strabo; and thus the early physicians, or medical men, attended to external as well as internal diseases. Moses became acquainted with the learning of these people, the Egyptians, who were the inventors of physic, and inserted their practice of embalming the dead in his medical, dietetical and obstetrical code, as we read in the Leviticus, c. xii. Clemens, of Alexandria, states, that Æsculapius enlarged and amplified the medicine of the Egyptians, and delivered it to his sons, Machaon and Podalirius, who were kings of Greece. We have also the evidence of one of the Roman poets, that Æsculapius was wont to be accompanied, in his visits to his patients, by a dog and a goat, the one to lick ulcers, the other to give milk to his consumptive patients. He was born at Epidaurus, and statues and monuments were erected to perpetuate his memory by different nations, and he was absolutely deified some hundred years before the Christian era. History thus affords proof, that this reputed father of medicine attended external or surgical diseases. His sons, Machaon and Podalirius, though instructed by him in the mysteries and arts of physic, acted only as surgeons at the Trojan war,

A.M. 2820, A.C. 1184, others say, 932, for they did not undertake the treatment of the plague which ravaged the country at that period. We are indebted to Homer for this latter opinion; while Virgil very loudly extols the consummate skill of Japis, the physician of Æneas, who also *acted* as surgeon. The records of history also inform us, that the immortal Hippocrates, who flourished 460 years before the birth of the Saviour, and first separated physic from religion and philosophy, and who reduced the chaos of his predecessors to an useful and liberal art, to a noble and dignified profession, and first gave it the air of a science, acted in all the medical capacities, as physician, surgeon, accoucheur, apothecary, and even nurse. The works of that venerable and extraordinary man extended to seventy-two volumes, embracing every branch of medicine, and of course including that on the diseases of women, and the obstetric art, and have conferred on him a reputation, of which two thousand years have not deprived him; and many of these works remain with lustre, while those of sneering critics have sunk into well-merited oblivion. From his time to the middle of the dark ages, many of the most eminent medical men both wrote on, and practised every branch of medicine. About the latter period, A.D. 1173, the church, at the Council of Tours, decreed, that her members should no longer practise surgery, for, at the time the clergy had monopolised the professions of medicine and surgery, as well as theology, a decree was published, declaring that they were defiled by sanguinary operations,—"Ecclesia abhoret a sanguine,"—and surgery was then committed to their domestics, who were also their barbers, and hence arose that class of practitioners, afterwards very well known through Europe, the barber-surgeons. All external operations were committed to these men, and to lay persons, who were sunk in the darkest and most profound ignorance at the time; and thus arose the unnatural and irrational subdivision of the healing art into physic and surgery,—a separation soon confirmed by law in the different nations, and continued in most countries to the middle, or perhaps towards the close of the last century,—a remnant of which prevails in our own country even to the present time. In the British dominions, we have corporations of physicians, surgeons, and apothecaries, in each of the countries which are now happily united to the first and most powerful nation in the world. Each of these corporations in England, Scotland, and Ireland have peculiar rights and privileges, though a knowledge of each profession is often acquired from a similar source, often from the same teachers and authors, and the practice of each is precisely similar; and yet, a practitioner authorised by any one corporation, cannot practise within the precincts of the other with impunity. As the principles and practice of the different branches of British medicine are similar in every part of the empire, should not all duly and legally qualified members of either corporation have equal rights and privileges, in the same dominions? This is the case in France, and in all the other enlightened European nations, and throughout the vast continent of America. The third article of the French charter declares, that "all Frenchmen are equally admissible to all *civil* and military employments." While some of our medical corporations are endeavouring to prevent members of their rivals and contemporaries from exercising their professions, the whole empire is completely overrun with illiterate and demoralising empirics, who freely and most extensively practise on the persons and purses of his Majesty's subjects at large, with perfect impunity. A most able and veracious physician has truly asserted, that "quackery has destroyed more in this country than the sword, famine, and pestilence, united;" and never was there a period in the history of British medicine, at which the force and truth of this opinion was more obvious than at this day. But the laws relating to the practice and protection of the medical profession in the United Kingdoms, are perfectly defective and impotent, while they are no less contradictory than inconsistent, with the wants and wishes of an improved and more enlightened society.* The general diffusion of knowledge among the great mass of mankind, has given rise to corresponding improvements in every art and science; has introduced such invaluable and improved systems, that the oldest and most venerable institutions *must* adapt themselves to the spirit of the age. The just murmurs, and respectful but firm remonstrances of the medical profession, have not only reached the portals, but entered the temple of the legislature. That profession, the most useful and important to the sublunary condition of mankind, (for the conservation of the public health is the sovereign law of every nation,) has, at length, come under the consideration of the government, and of the senate, the members of which, in their wisdom, will display that great and brilliant

* This was admitted by the Marquis of Lansdowne, and the Right Honourable Robert Peel, in a correspondence which I had the honour of having with them, on the necessity of improving the laws relating to the medical profession in the United Kingdoms.

spirit of improvement, that so highly distinguished their recent proceedings, and will introduce those changes in the laws regarding the practice of the healing art, which will render it more perfect, and better adapted for the preservation of public health. Some of our Colleges of Physicians and Surgeons, until a very recent period, refused admission to all persons, who had demeaned themselves by practising pharmacy; though without the composition of medicines, neither physicians, or surgeons themselves, could efficiently pursue their respective avocations. These august corporations enforced a similar sapient self-constituted by-law against all those who practised midwifery, as if the structure, functions, and diseases peculiar to the female organs of generation, were not as important, and the diseases as fatal, as those of any other organ in the human body. The pure physicians and surgeons would not deem themselves degraded, by treating the diseases of the female bladder and rectum, while they wisely considered that the treatment of the diseases of the intermediate organ, the uterus, as highly degrading and ignominious. I have already attempted to prove, that the arts and sciences have been revolutionised during a very brief and recent period, that the sphere of human knowledge has most wonderfully advanced, and that a reformation in the education of all classes of medical men must be carried along in the universal progression—in the general diffusion of improvement, and of universal intelligence. In truth, the vast march of mind, and improved knowledge of the present age, has established a better philosophy, and far sounder principles in the British medical corporations; and to these causes, and to that mighty engine the Press, are we mainly to ascribe the relaxation of the penal corporate enactments, against the professors of that most important art and science, which is so beneficially and marvellously exerted at the birth of man. The day has now arrived when medical science has shaken off the dust of the ruder ages, and shone forth with all its intrinsic worth and splendour; and when its full cultivation can no longer be impeded by the absonous and ridiculous dogmas of less auspicious times; and hence we find, that nearly all our medical corporations now require its fullest cultivation of their respective candidates, and that pharmacy, or the obstetric art, are no longer impediments to those seeking medical, surgical, or pharmaceutical qualifications. For some years past, few physicians, surgeons, or general practitioners, in this country, had thought their professional education complete, without including a knowledge of the principles and practice of midwifery, and the treatment of diseases of women and children. Every man in practice, no matter what his qualifications may be, will be as frequently consulted in female diseases, as in any other class of maladies; for the man will err very egregiously, who supposes that nine-tenths of society make any distinction between physicians and surgeons. In fact, it is notorious, that our best surgeons more frequently prescribe for medical cases, as they have been most improperly named, than they are called on to perform operations; and it is also well known, that the most eminent surgeons, unattached to public institutions, have practised for many years, without ever having performed a capital operation. In a word, general experience and observation fully prove, that the practitioner who is most generally acquainted with human disease, has the best and surest chance of succeeding, and finally arriving at eminence.

Let it not be supposed, that the obstetric branch of medicine is simple, because it had been long committed to females; nevertheless, it requires as much skill as the other branches; and often, the most difficult operations in surgery. Happily for humanity, the parturient process is in general safe, and free of danger, especially where females live according to Nature's primitive laws; but, in the middle and higher ranks, where these laws are openly violated or forgotten, where the constitution is impaired by luxury, and the voluptuous dissipations of modern times; the process of child-bearing is attended with considerable danger, before and after it shall have been completed. These observations are equally as applicable to the lower classes in our large cities, whose habits, pursuits, customs, and constant inebriation, render them liable to many accidents during parturition, and to a vast number of inflammatory and other puerperal diseases, subsequent to delivery. The universal testimony of all impartial and well-informed medical practitioners, fully confirms the truth of these assertions. It is unnecessary to dwell further on the utility and importance of the obstetric art, which is so obvious, as to be admitted universally by every class of society. From what has been already stated, it appears that females were attended by midwives long before physicians were named as a profession in history.

I now proceed to give a brief sketch of the history of the obstetric art, including an account of its rise, progress, and cultivation, among mankind.

The practice of midwifery was nearly coeval with the human species. From the most ancient of all profane and inspired writers, we learn that this branch was almost invariably confined to females in the

early ages, especially among the Hebrews and Egyptians; a proof of which I have already submitted to you, when alluding to the medical knowledge of Moses, who spoke of midwives long before he had introduced the names of physicians. We find also, in the sacred volume, that Rachael, wife of Jacob, and Thamar, who was delivered of twins, were assisted by midwives; and that Pharoah, king of Egypt, commanded the midwives to destroy all the male children of the Hebrews—a command they most nobly disobeyed. All the Asiatic nations, as well as the Greeks and Romans, confided this branch exclusively to women. We have also the testimony of the ancient physicians and naturalists, as Hippocrates, Aristotle, and Galen, as to the duties of midwives in their times.

The immortal Hippocrates may be truly deemed the father of midwifery as well as physic, for he has left us treatises on diseases of women before and after conception, on the nature of women, and on diseases before and after parturition, as well as on parturition itself. This extraordinary personage had no experience in the practice of midwifery, and therefore we are to expect that his practical opinions are defective and erroneous. He maintained that, in all cases of natural labour, where the progress was tardy, it was very useful to exhibit sternutatories in order to excite sneezing, which, he said, would expedite delivery; which was, in some measure, true, as sneezing throws the abdominal muscles into action, and causes much pressure on the viscera of the abdomen and pelvis. If the snuffs failed, he recommended the patient to be held by the shoulders, and gently shaken at intervals, till the pains should expel the infant. Both these practices were employed for many centuries; and even at present among midwives, both before and after delivery, but especially where the placenta is retained, when they order the patients to sneeze, cough, laugh, and blow into a bottle, or on the back of the hand; all of which exertions throw the abdominal muscles into action, and consequently excite uterine contraction. It is very generally known, that severe cough will evacuate the bladder, rectum, and uterus, and absolutely bring on premature labour, as I myself have often witnessed; in fact, all those causes that act on the muscles connected with the pelvis, will produce similar effects. Hippocrates left another precept of very general adoption even in those enlightened times, namely, "that if the infant be dead, and its body become much swollen, and cannot be delivered, it should be brought away piecemeal," which is the modern operation of embryotomy. He was likewise of opinion, "that feet-presentations were generally fatal," which proves his want of practical experience; and that in such cases, as well as when the arm, leg, or side present, such parts were to be returned into the uterus, and the head brought down as in natural labour—a recommendation also erroneous and highly dangerous, as I shall prove to you hereafter, for all such preternatural presentations ought to be reduced to footling cases, if possible or practicable. He also fell into another most dangerous error, in recommending the immediate extraction of the placenta—an operation seldom necessary, and never to be resorted to, unless in cases of extreme danger and necessity. His notions, as to the animation of the male and female fœtuses occurring at different periods, that of the one being some weeks earlier than the other, though still received by the canonists and legislatures of many nations, are quite erroneous; for the general opinion of the most able physiologists is, that animation occurs at the moment of conception, and not at the time of quickening, as people in general imagine. I have endeavoured to prove this in my Theses De Genere Humano ejusque Varietatibus. From his time, to the commencement of the Christian era, midwifery made little, if any, progress. Aristotle, who succeeded Hippocrates, A.C. 384, was physician to Amyntas II, father of Alexander, and his opinions had more influence in medicine than all of his time—and many of them were adopted to the middle of the sixteenth century, and are received by the community even at this time. "He concurred with Plato," says the learned Lord Bolingbroke, "in various ways to retard the improvement of medicine, not only during his time, but even to the present period." His crude and erroneous opinions on conception, pregnancy, and labour, have been republished, with comments more erroneous and unnatural, and very generally circulated among all classes of females in this empire, and are well calculated to terrify the female mind by the recital of unnatural and false narrations, destitute of foundation in fact or truth. His reputed work cannot be too severely reprobated.

Dr. Ryan gave an historical account of all the writers on obstetric medicine, and on diseases of women and children from the earliest period down to the present year. He gave the title and date of each work, and the leading principles maintained, which must have cost him an immense deal of labour and research. Among the authors he named, were Moses, Hippocrates, Aristotle, Asclepiades, Celsus, Aretæus, Galen, Pliny, Rufus, Ephesius, Soranus, Ætius, Oribasius, Paulus of Eginetus, Moschion, Rhazes, Avicenna, Avenzoar, Albucasis, Averroes, Abi Osbia, (who collected the

works of 300 writers on midwifery to the year 1150,) Raynolds, the first British writer on midwifery, 1540; Ambrose Paré, 1575, who opened the obstetric wards in the Hotel Dieu of Paris; the immortal Harvey in 1603, the first male British obstetrician: M. Clement, the first French accoucheur in 1663; Hilden, or Hildanus; Riviere, or Riverius, Chamberlin in London, 1665; Willis and Hoffman, in 1667; Mauriceau, of Paris, 1668; Willugby, of London, and Wigmore, of Oxford, in 1670; the distinguished Sydenham in 1688; Ronheusen and Portal soon afterwards; Friend in 1703; Boerhaave in 1708; Dionis, 1718; La Motte, 1721; Dr. Maubray in 1723, the first British lecturer on midwifery;* Deventer in 1728; Chapman in 1733, who first described the forceps, and was the second British lecturer on midwifery; Dr. Hody in 1734; Dawke in 1736; Bracken, who was the author of the Midwife's Companion in 1737; and Sir Richard Manningham in 1739, who established a ward for lying-in women in the Parochial Infirmary of St. James, Westminster, which was the first British asylum dedicated to the auspicious Lucina, and sacred to the ministry of the obstetric art. The next writers who were named, were Sir Fielding Oulde of Dublin, who first accurately described the process of labour in 1741; Puzos, 1759; Astruc, 1762; Portal, 1763; Smellie, 1765; Roederer and Memes, 1766; Levret, Roulin, and Manning, 1771; C. White, Hulme, 1773; J. Clarke on infants, same year; the celebrated Dr. W. Hunter, 1774; Kirkland and Boudelocque, 1775; Armstrong and Sparman (on infants,) 1776; Leake and Lefebure, 1777; Dease, of Dublin, and Dr. Osborne, 1783; A. Hamilton, Chambon, Dr. Denman, Spence, Rigby, 1784; Spallanzani and Douglas, 1785; H. Smith and Carrere, 1787; Rowley and Aikins, 1788; Underwood, Schlegel, and others, 1791; Dr. John Clarke, 1793; Moss and Bland in 1794; Dr. James Hamilton, 1795; Drs. Haighton and Joseph Clarke, of Dublin, Forster, Perfect, Burton, Johnston, and others, wrote about this period. The writers of the 19th century, since 1800, were Demangeon and Hull, 1800; Cheyne and Hume, 1802, on infants? also Wm. Buchan, 1803; Heberden, 1804; Willan, 1806; Plocquet, A. P. Buchan, Mahon, and Foot, 1808; Burns, of Glasgow, 1809; Merriman and Mondat, of Paris, 1810; Douglas, of Dublin, and Gasc, 1811; Capuron and Syers, 1812; Armstrong and Brenan, 1814; Hey, 1815; Dr. I. Clarke on infants, 1816; C. Clarke, Gardien, Nauche, and Degland, of Paris, 1817; Granville, Hopkins, and King, 1818; Power, 1820; Drs. Conquest and Ramsbotham, 1821; Mackintosh and Campbell, 1822; D. Davis and Hornett, 1824; Dewees, 1825; Bourdat, Chevreul, Guilbert, and Dizos, of Paris, 1826; and Dr. Blundell's Lectures in The Lancet, 1827-8.

Like all other branches of medicine, a variety of circumstances concurred to impede the cultivation of the obstetric art; among which, the delicacy and natural modesty of the other sex, and their aversion to the presence of men during parturition, were not the least prominent causes; and it was not until the employment of medical men, in the middle of the 17th century, that this art had at all advanced, or its improvements become manifest. Since that period it has been cultivated and practised by the most eminent medical men, and has now attained that degree of certainty and perfection which ranks it not only in an equal, but in a superior point of importance to any other branch of medicine. Of all the diseases incidental to humanity, those of the other sex are most deserving of sympathy and attention. The weakness and peculiar delicacy of the female constitution, call forth our greatest tenderness and compassion. We are not only bound to cherish and protect, but to aid and relieve those endearing objects, who were wisely appointed our reasonable companions, without whom bliss would be joyless, and life cheerless. Indeed it is evident, that the diseases incident to females, had been closely attended to by the most eminent members of the medical art in every age; for the neglect of removing these diseases, would be indirectly depopulating the different nations, which the laws of all civilised countries most strenuously prohibit, as they are invariably intended for the preservation of society and increase of posterity. Independently of all human laws, there is an innate natural desire in mankind, to fulfil that primitive law of the creation, which was laid as an injunction on the first of the species in their primeval state of felicity, "to increase and multiply;" and this desire irresistably impels all to wish the removal of those infirmities of both sexes which impede its object; hence the sexual diseases incident to both sexes have been attended to by the professors of the healing art from the earliest periods. There still remained a serious defect, by medical men not assisting at the parturient process, which was very frequently observed to be destructive to both parent and offspring. This defect was obviated in time, as I have already stated; and we have in this most improved and enlightened age, a class of medical practitioners who devote their entire attention to the multitudinous diseases of the other sex; before impregnation, during pregnancy, at the process of child-birth,

* He lectured in Bond Street.

after delivery, and during lactation; and these practitioners also attend to the diseases of new-born infants and children. Such is the province of the accoucheur, or rather obstetrician. I am not fond of innovation, or of introducing new terms into a profession which already contains so many; but I may be permitted to observe, that the English language is sufficiently copious and perfect to afford some word by which we can express the male midwifery practitioner, without our attempting to anglicise the gallican term accoucheur, as the profession in general seem to sanction, and some of our modern lexicographers have also adopted: for my own part, I shall always prefer the word obstetrician. That part of medicine which has for its object the consideration of the structure, functions, and diseases of the organs peculiar to females, is called midwifery, or the obstetric art, and this includes the arrangement that I have pointed out when describing the province of the obstetrician. We have no accurate terms which comprehend in a scientific and classic manner the anatomy, physiology, pathology, and therapeutics of the female organs of generation; nor for the process of parturition. From much consideration on these deficiences, I would propose the following nomenclature, part of which is sanctioned by Hippocrates. The father and founder of medicine left a work entitled *Γυναικειης φυσεως*, on the nature of woman; another, *Παρθενειων*, on diseases of virgins; and a third, *Γυναικειων*, on diseases of women. The classification I propose is as follows:—1st, *Γυναικοτομια*, Gynæcotomy, or the anatomy of woman; 2d, *Γυναικοφυσεωλογια*, Gynæcophysiology, the physiology of woman; 3d. *Παρθενοσολογια*, Parthenosology, or diseases of unimpregnated woman; 4th. *Γενεσεωλογια*, Genesecology, on generation, or conception; 5th. *Εγκυοσοσολογια*, Encyonosology, on diseases of pregnant woman; 6th. *Τωκολογια*, Tocology, on parturition; 7th. *Λοχειαοσολογια*, Lochianosology, on puerperal diseases; and, 8th. *Παιδοσοσολογια*, Paidonosology, on diseases of infants and children. Such is the order I will adopt in the following lectures, as it is decidedly the most natural that could be devised, and is infinitely superior to any arrangement that has been hitherto adopted. The order of arrangement to be adopted is, 1st. The anatomy, physiology, and pathology of the female organs; 2d. On conception and its consequences; 3d. On diseases of pregnancy; 4th. On the mechanism and process of parturition, including the various classes of labours; 5th. On puerperal diseases; and, 6th. On diseases of infants and children. When I consider the vast importance of these subjects, I feel the great responsibility incurred by those who undertake to deliver lectures on them. But I am confident that the opinions I shall advance will be, in general, agreeable to the experience of our best teachers, as they are confirmed by a very extensive personal observation, arising from ten years' active practice. I may further remark, that I devoted very particular attention to obstetric medicine, and had lately been in treaty with a most respectable medical publisher of this metropolis, with regard to the publication of a work on midwifery, which, I hope, shall shortly appear. The opinions I mean to advance, so far as they are personal, are founded on truth, whose immutability neither time or chance can ever overturn. So soon as gentlemen shall be sufficiently instructed in the principles of the obstetric art, a considerable number of patients will be supplied them under my own superintendence, and they will have extensive opportunities of acquiring practical knowledge, which I can amply afford, through my official situation of physician-accoucheur to the Central Infirmary, Dispensary, and Metropolitan Lying-in Institution in Greville Street, Hatton Garden. Each pupil will be required to treat his respective patients as correctly and attentively as if they were in private life; and thus he will be afforded a safe and perfect initiation into the important duties of private practice. Examinations will be held twice a week on the subjects that may have been recently discussed, at which the pupils and their junior medical friends, may attend gratuitously. This plan will enforce the necessity of regular attendance, which the awful responsibility and important trust, that will be imposed on you hereafter, require; a solemn duty you owe your friends, and an act of honesty you owe society at large. I pledge myself to use my best exertions to afford instruction, and to be ever ready to promote the advancement and interests of those who may honour me by attending these lectures.

A CASE OF DISLOCATED HUMERUS, REDUCED TEN MONTHS AND A HALF AFTER THE DISPLACEMENT.

By Nathan Smith, M. D. Professor of Surgery in Yale College.

This was the case of a lady in Derby, Connecticut. The humeri had both been dislocated into the axillæ by a puerperal convulsion. One was reduced by Dr. Smith, at the end of seven months and a half after the accident; but it was thought not prudent to attempt the reduction of the other shoulder at that time, and another occasion did not present till the above time had

elapsed. The reduction was then accomplished without the use of violent force, or any mechanical apparatus. Gentle and long-continued extension was made upon the member; the knee of the surgeon was then placed beneath the axilla, and the bone being employed as a lever, the head was, without much difficulty, conveyed upward into the glenoid cavity.

The result of these cases should encourage us to attempt more frequently than is done the reduction of old dislocations. We believe that the frequency of failure in such attempts is often owing to the injudicious employment of the mechanical powers, it being presumed that the reduction requires the exercise of great force.—*Phi. Journal of Med.*

A CONVENIENT MODE OF REDUCING CERTAIN DISLOCATIONS OF THE HUMERUS.

Dr. Belville, of Trenton, was called to a case of dislocation of the shoulder, in which he effected the reduction in the following manner:—

The patient was intoxicated, and very refractory, which made it extremely difficult to effect the reduction in the usual position. It occurred to the doctor, therefore, to place him upon the sound side on the floor, and to effect counter-extension, and the confinement of the patient at the same time, by passing a folded sheet beneath the dislocated shoulder, and directing an assistant to stand on it on each side of the patient, so as to confine him to the floor. The surgeon then grasping the wrist, made extension upwards, which can be done in that position with peculiar advantage, since we can *lift* with more power than we can pull horizontally. Counter-extension being made upon the scapula by the hand of an assistant, and the usual flexions impressed upon the bone, it was without difficulty reduced.

CASES ILLUSTRATIVE OF THE EFFICACY OF HYDROCYANIC ACID IN GASTRODYNIA.

By Dr. T. Woodforde, *Taunton.*

The hydrocyanic acid was first recommended in cases of pulmonic inflammation, and in phthisis, but it has by no means answered the expectations of its advocates in these diseases; nor can we be surprised at this, if we for a moment consider the pathology of phthisis. It is without doubt a valuable medicine in many cases of what is called spasmodic cough; and it may allay the cough in inflammation of the lungs, when it is out of proportion violent, as Dr. Elliotson remarks; and from its success in these ailments, I suppose it came to be recommended generally in phthisis, a species of reasoning unfortunately too common in medical history. But although it has no claim to our support in these diseases, I think it will be found one of the most certain remedies we possess in a class of diseases, if not destructive to life, yet totally subversive of all enjoyment of it. I have exhibited it in many and various examples of severe pains of the stomach, with vomiting and other distressing symptoms, and nothing has appeared to me to have afforded such speedy and certain relief. The two following cases have been selected from their great severity, and the obstinacy with which they had resisted a long attack, in which all the articles of the materia medica, usually recommended in such disorders, had been in vain brought up.

Mrs. G., August 6, is subject to daily attacks of severe pain in the epigastric region, shooting through to the back, accompanied by great distention and eructation of flatus: these fits last from three to five hours, and are attended with a sense of great weakness and oppression; has nausea; bad taste of mouth; headach; bowels inclined to be costive; has been subject to disorders of the stomach for many years; present complaints of six weeks standing; has taken a variety of medicines without relief.

After having had a blister applied to the epigastrium, and having tried carminatives, oxide of bismuth, &c. for a considerable time, without any material benefit, she commenced on the 2d of September, taking two drops of the hydrocyanic acid three times a day, and increased the quantity gradually; all other medicine intermitted.

On the 14th she had taken four drops three times a day, and had had no return of pain for several days; she continued its use a few days longer, and has remained free from complaint since.

S. R., March 1827, complains of acute lancinating pains at the scrobiculus cordis, increased by taking any thing into the stomach, of vomiting of all ingesta, and frequently of a black fluid of acid taste. Bowels costive; tongue white; skin dry; anorexia; great emaciation; countenance anxious.

Present complaints have existed four or five months; attributes her illness to the sudden retrocession of a cutaneous inflammation of one arm.

A crop of pustules was produced on the epigastric region by the tartar emetic ointment, and kept discharging for some time, and a variety of medicines was exhibited internally, but no relief obtained.

She commenced with the acid as in the former case, and increased it to five drops, three times a day, and with the same good effects. She has, however, had several slight returns; but they have yielded to the same remedy.

Taunton, May 12.

THE LANCET.

London, Saturday, June 28, 1828.

A PARLIAMENTARY inquiry into the causes which impede the acquisition of anatomical knowledge in this country, would, if conducted with an earnest desire of sifting the subject to the bottom, lay open some of the most flagrant abuses committed by the oligarchy in Lincoln's Inn Fields, and embrace many of the most important topics connected with the question of medical reform. We have never been very sanguine in our expectations of any practical benefit which was likely to result from Mr. WARBURTON'S Committee, for reasons which we shall abstain from stating fully to our readers, until the report shall be laid before Parliament. A step, however, will be gained, by the appointment of this Committee, towards eradicating a prejudice from the public mind, even if their report should not be immediately followed up by any practical measure for facilitating anatomical dissection. In the present advanced state of the Session, it can scarcely be expected that a bill will be introduced for that purpose; and, after some recent decisions in our courts of justice, it has become more questionable than ever, whether the Secretary for the Home Department can, by his official authority, render any assistance to the profession, in promoting an object which, however essential to the public welfare, can be accomplished only by a violation of the laws.

The decline of our anatomical schools, however, is but a symptom of the general disease arising from the corrupt constitution of the College of Surgeons; and to remove the symptom, we must have recourse to constitutional remedies. The causes of that decline lie deeper than in the prejudices of the people against human dissections; and the enlightened members of our profession are well aware, that the main obstacle to the acquisition of professional knowledge is to be found, not in those popular prejudices, but in the existence of a self-perpetuating governing body, whose interest it is to maintain a monopoly of surgical teaching, and, consequently, to render the means of conveying surgical instruction in other quarters as difficult as possible. The petition of the College Council, praying for a removal of the obstacles which oppose the acquisition of anatomical science, was a piece of solemn buffoonery, which, however it might impose on a few unsuspecting members of the Legislature, was well understood and appreciated by the great body of the profession. A petition, from a company of monopolists, praying for low prices, and increased facilities to free traders in the article they monopolise, might seem, at first view, to be a gratuitous outrage on the common sense of the public; but it was essential to the interests of the Council, that they should not appear hostile to the prayer of the petitions, which practitioners in all parts of the empire concurred in submitting to the Legislature. How far they are really desirous of affording facilities to the cultivation of anatomy, is proved by the uniform spirit and tenor of their regulations. It is not necessary, for the purpose of estimating the sincerity of their petition to the Legislature, to look at the fact of this enlightened body refusing to receive certificates of attendance on courses of dissection at provincial hospitals, and insisted on the production of certificates of attendance at the London Hospitals, at a time when no subjects could be procured in the metropolis for dissection.

The very last series of regulations promulgated by the Council, is conceived in the same narrow mercenary spirit; the attainments of candidates, as a test of their competency to practise, are laid entirely out of consideration, and the question on which their admissibility is made to hinge, is not

how much professional information they have gained, but where they have been taught; not whether they have acquired a competent knowledge of their profession, but whether they have paid tribute to a particular class of privileged instructors.

The zeal, intelligence, and active spirit of investigation exhibited in many of the communications transmitted to this Journal from the principal towns of the kingdom, furnish a striking commentary on the injustice and impolicy of the regulation by which the College has refused to recognise the certificates of provincial professors. We inserted last week a sketch of the state of medical science in the city of Bath, and if the accuracy of that sketch, which we have no reason to doubt, be admitted, it can scarcely be pretended, that the opportunities which a medical student possesses in that city of acquiring a knowledge of his profession, are not fully equal to any which he could enjoy in the metropolis under the auspices of Travers or Brodie. The lecturers of the London Hospitals are perfectly aware of the talents of many of the provincial teachers, and they are aware, also, that one of the first effects of admitting the certificates of those teachers, would be the desertion of many of the medical schools in the metropolis. Hence the pertinacity with which they have refused to recognise the possibility of teaching anatomy or surgery in any of our provincial towns. It is impossible, however, that the Council can long maintain a system which is founded in a base desire to fill their own pockets at the expense of public interests, and in a total disregard of all that is due to the dignity and respectability of the profession. Already is the corrupt state of this body made known by its fruits—fruits of a bitterness which has nauseated even the least fastidious portion of the public, and which has roused the most indifferent to a sense of the necessity of laying the axe to the root of the tree.

The course of political events during the last few months has been singularly unpropitious to the advancement of the claims of medical reformers. Viewed in its just light, the question of medical reform is one of paramount importance, and the legislature could scarcely direct its attention to any matter of deeper interest, than to an inquiry which has for its object to place the medical profession on a basis, which may afford the greatest degree of security to the health and lives of the community. But, though this proposition may be true in the abstract, yet it is well known that, in a parliamentary sense, there are times and seasons for particular discussions, which are not always exactly regulated by views of public expediency, and some of the ablest and most distinguished advocates of medical reform have, perhaps, exercised a sound discretion in deciding, that it would be better to postpone an appeal to the legislature on this subject, on behalf of the great body of the profession, till the next session of Parliament. *On recule pour mieux sauter.* The recent vicissitudes in the political world may have contributed to protract for a short time the existence of the medical oligarchy; but if accident has retarded the fate which the uplifted arm of the profession had designed for the hydra in Lincoln's Inn Fields, let reformers employ the interval of delay in accumulating their resources, and enabling themselves to give renewed energy and unerring direction to the blow

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Academical Examinations on the practice of Surgery, intended for the use of Students. By W. Gordon, Member of the Royal College of Surgeons, Edinburgh, &c. &c. Edinburgh; published by Maclachlan and Stewart. 1828.

"Blessed are they who expect nothing," said the witty Dean of St. Patrick; and this sentiment we reiterated, after an at-

tentive perusal of Mr. Gordon's "Academical Examinations." It is one of the blessings of the age in which we are fortunate enough to live, that all things are "condensed and simplified;" we have essences, salts, and abridgments of all kinds; the most abstruse sciences are taught in six-penny numbers; the most difficult languages in six lessons. Of a truth, as a popular writer observes, we may now "carry a medicine shop in a thimble, and a library in a catalogue." By the way, the greatest pretender in the condensing and simplifying line, is that shifting wight Jemmy Johnstone. For "little more than '*fourpence sterling*,' he gives his readers the '*substance*' of" cart-loads of trash. Now, whether this is effected by mere mechanical pressure, or whether it be the result of some profound alchemy, we must confess ourselves ignorant. To be sure the Doctor tells us that he is a bee—*libans omnia*—and sometimes a spider; but, in the latter character, the poor devil has met with a blue-bottle too strong for his web. What has this to do with the subject of Mr. Gordon's *Academical* Examinations? Why, gentle reader, it shows that the author has only acted in conformity with the spirit of the times, in his attempt to teach the whole science of surgery in a small octavo volume of questions and answers.

We are not altogether disposed to condemn the catechetical form of instruction; in some instances, it is perhaps the most eligible plan of communicating information; and if we were required to name a work, in which the advantage is strikingly apparent, we should speak of the "Conversations on Chemistry," said to be written by Mrs. Marcet, in which an attempt is made to teach only the outlines of the science, the general principles, by familiar illustrations, and not in the mere *rote* and parrot-like form of Mr. Gordon's book.

Inflammation is the first subject which our author treats of; and after stating, in answer to the query, "into how many kinds is inflammation divided," that it is arranged "into healthy and unhealthy, common and specific, acute and chronic," he proceeds to the definition of these, and here we have the following question and answer:—

"Q. What is meant by specific inflammation?

"A. That which has been produced by the application of some irritating substance, or poison, to the body, and which presents symptoms peculiar to itself."

Peculiar to what? the body, the inflammation, or the substance? The entire passage is nonsense.

The proposition contained in the answer, we suppose, is *intended* as universal—at least *quasi* specific inflammation; let us see then how far it obtains. It will doubtless be conceded, that blisters and boiling water are irritating substances, yet it is not a *specific* inflammation which follows their application. Again; the inflammation attendant upon gout, scrofula, and various other diseases, is of a specific kind, yet it is not attributable to the application of irritating substances. The definition, therefore, as given by the author, is palpably absurd. Passing over the puerile trash respecting the "*remote*" and "proximate" causes of inflammation, terms which we most heartily wish were for ever abandoned, we come to some observations on the different terminations of inflammation. These are, says Mr. Gordon, "resolution, adhesion, suppuration, mortification, scirrhus, effusion, and ulceration." Subsequently it is stated, that when inflammation is terminated by *resolution*, "there takes place *an effusion of serum and fibrin* into the cellular substance. Most writers would call this a termination by EFFUSION—not so, however, our modern Athenian. As specimens of the twaddle with which this trumpery publication abounds, we may cite the following queries: "What purges are best?" "When are clysters necessary?" "What diet and regi-

men are to be recommended in inflammation?" Then, at page 11, we find the following precious morceau of intelligence :—

"Q. What bad effects are sometimes produced by applying cold to glandular parts?
"A. Scirrhus! is sometimes the consequence of such treatment."

At page 14 we are further enlightened by the information, that the stomach and intestines are parts in which gangrene most frequently follows inflammation; and, in describing amputation of the leg, it is directed that the tourniquet should be applied "where the femoral artery perforates the triceps." The course of the carotid arteries is thus described :—"They run along the sides of the neck *covered* by the sterno-cleido mastoidei muscles;" the grand sympathetic nerve is said to be included in the same sheath with the carotid artery. In the treatment of wounds of this artery, there is given this important monition, "if the surgeon arrives before the patient expires," &c.

Entreating the patience of our readers, we must present a few more examples of the author's pathological erudition. Common inflammation of the eyes, he designates "ophthalmia lachrymosa," and the seat of the disease, he says, is in the *tunica sclerotica*! "*What are the symptoms of epistaxis, or nasal hæmorrhage?*" is found as an interrogatory at page 157. The principal diseases of the mamma are stated to be "inflammation, abscess, scrofulous enlargement, *sarcoma*, scirrhus, and cancer." Stricture of the rectum is divided into two kinds, "the spasmodic and the permanent;" but no allusion is made to the different *kinds* of permanent stricture. The first *symptoms* of stricture of the urethra are said to be, "a frequent inclination to make water," and "a gleety discharge from the urethra."

From the foregoing extracts, our readers will be enabled to form a pretty correct estimate of the value of "Mr. Gordon's *Academical*" Examinations, and we shall here close this notice by stating, that in our opinion the book can improve only two classes of creatures, viz. the Bats of our Hospitals, and the Owls of our College.

BROOKESIAN MUSEUM.

The sale of this splendid collection will commence on Monday, July 14. We hope to give some account of the catalogue next week.

LONDON VETERINARY SOCIETY.

The third Meeting of this Society took place at the Anatomical Theatre, Little Windmill Street, on Tuesday evening last, when F. C. Cherry, Esq. was unanimously elected President.

The diseased brain, presented at the last meeting by Mr. Rogers, was again exhibited, and the peculiarities of the case were discussed at considerable length. It appeared that, during the progress of the disease, the horse was constantly lethargic, and kept his head turned towards the left side. Inflammation of the brain was the immediate cause of death. As no section of the tumours was made, we cannot speak of their structure. There was considerable discussion on broken knees and fractured bones in horses, and some interesting cases were related by Mr. Molden, of Winchester. A well-written paper on the use of blisters, and on the relative value and strength of the different materials employed in blistering, was read by Mr. E. F. Cherry. He had found blisters of the greatest service in enlargements of bone, spavin, splints, ringbone; in thickened tendons, in effusions of lymph about the joints, and in indurations and thickenings following inflammations generally. As a blistering substance, Mr. E. F. Cherry gave the preference to cantharides, the action of which is greatly promoted by the addition of euphorbium, turpentine, oxymuriate of mercury, &c.

The subjects proposed for discussion at the next meeting are,—neurotomy, and the conditions proper for its employment; and on inflammation of the lungs, with the best methods of treatment.

The Society was then adjourned to Tuesday, 8th July, at seven o'clock in the evening; and a general invitation given, by the Chairman and the Members, to veterinarians, surgeons, physicians, and all persons engaged in zoological pursuits. Thus conducted, this Society is sure to flourish. Such an institution was much wanted.

MR. SHELDRAKE ON DISTORTIONS OF THE FEET.

To the Editor of THE LANCET.

SIR,—I now send you a third case, similar in its general features to the two last, but there are material differences between them, which will be noticed, when I proceed to explain the treatment in my next.

I am, Sir,
Your most obedient servant,
T. SHELDRAKE.

No. 276, Regent Street.

A servant trod upon the foot of a child, when she was about two years old; the accident was not mentioned, till the parents perceived she was unwilling to stand upon her foot, or to walk. A medical gentleman was consulted; he advised that nothing should be done, but recommended that the child should not be allowed to stand upon her foot, or walk, till the foot was quite well. This advice was literally followed; for she was provided with crutches, upon which, without setting the foot that had been injured upon the ground, she was permitted to walk till I saw her, when she was ten years old.

In consequence of this treatment, her foot, when I first saw her, was distorted like the annexed figures 1 and 2, which were drawn from a cast taken from her foot at that time.* The foot was rigidly fixed in the position which those figures represent; and, as well as the ancle joint, every other joint of the foot was incapable of the least motion.

I was asked if I would undertake to cure the defect, without the child feeling any pain from the treatment that would be used; to this question I could not answer in the affirmative; the young lady was then asked if she would bear with the uneasiness that she would probably have to endure, if the cure were undertaken; she replied candidly, she would rather keep her foot as it was, than suffer any pain at all: as she was a favourite, and what is called a spoiled child, her father indulged her, and determined to leave her in the state she was in, in every respect, except that it should be attempted to give some mechanical support to the foot, which might, perhaps, enable her to walk with only one crutch; or, it was barely possible, to enable her to walk without any crutch at all. I was employed to this end, and she returned into the country.

Three years afterwards her father died, and her uncle and guardian being equally careful of her welfare, and more rational in the course they pursued to secure it, again brought her to me. Ever since she left London, she had managed, by using the contrivance I had supplied her with, to lay her crutches aside; but although every precaution was used to prevent any bad effects from pressure, her foot was more distorted, and, with the same rigidity as it had before, now resembled figure 3, which was drawn from a cast taken at that time. Notwithstanding this unfavourable circumstance, I was engaged to undertake the cure. She was now fourteen years old. My first process began in March 1802, and regularly continued till June 21, 1803, when the foot was reduced to its natural form, as it is represented by figures 4 and 5, taken from a cast made at that time.

She was able to stand with the heel close to the ground, and the sole bearing upon the ground in its whole length; but she had no power to bend the ancle-joint, or direct her foot, so as to place it in any other position; for, if she raised it to step forward, it immediately dropped, and hung apparently useless from the leg; the fleshy parts of the leg were much increased in size, but the tendo-Achillis appeared to be small, and was evidently very weak; she continued under my care for three years longer, when she was completely recovered, and left. I had several opportunities of hearing of her for several years after she left me, and know that she retained the perfect form and use of her leg and foot, but am not aware whether she is, or is not, alive at this time.

From the cast of her foot, made when she was placed under my care, in 1802, the following measures were taken:—

	Inches.
Length of the foot	6¼
Breadth of the foot at the toes	2½
Circumference at the toes	9
Over the instep, and round the heel	9¼
Round the smallest part of the leg	7
Round the largest part of the leg	10
Length of the leg from the patella to the ground, when she stood quite upright upon one leg, but would not bring her lame foot to the ground	14

From the cast made in June, 1803, the following measures were taken:

	Inches.
Length of the foot	7¾
Breadth of the foot at the toes	3
Circumference at the toes	8
Over the instep, and round the heel	10
Circumference of the smallest part of the leg	7
Largest part of the leg	11
Length of the leg, taken from the patella to the ground, when she stood with her foot flat on the ground	15

* In this drawing, it is intended to represent the form of the feet only, as the size here given is much too large.

From the cast made when she finally left me, the following measures were taken :—

	Inches.
Length of the foot	8¾
Breadth of the foot at the toes	3¾
Circumference at the toes	8¾
Over the instep and heel	10¼
Circumference of the smallest part of the leg	8
Circumference of the largest part of the leg	12
Length of the leg from the patella to the ground, when she was standing with both feet on the ground	17

The comparison of the measures, which are given from casts that were taken during the progress of the cure, will show the amount of the whole effect that was produced.

GUY'S HOSPITAL.

FUNGOID DISEASE OF THE TESTICLE.—CASTRATION.

Andrew Pearson, ætat. 28, of middle stature, a muscular and healthy looking man, was admitted into Cornelius Ward on the 30th of April, under the care of Mr. Key, on account of disease of the testicle.

He stated, that about thirteen months since, when at sea, he was bending a piece of wood in order to break it, when it suddenly flew up, and struck him upon the testicle. The blow caused the most excessive pain for a short time, when it subsided, and he thought he was quite well. In a few weeks afterwards, he perceived some swelling of the testicle, but as it was unattended with pain he took no further notice of it. After a lapse of three months, however, he observed that the enlargement gradually increased, and his attention was more particularly directed to it by his occasionally experiencing a dull aching, which was of uncertain duration, sometimes continuing longer than at others. On his return to England he consulted a surgeon, by whose advice it was repeatedly leeched. Alteratives were exhibited, and mercurial frictions of the part were also had recourse to. The mouth was slightly affected by the treatment, but the enlargement of the testicle remained unabated. The patient then consulted Mr. Key, who advised him to come to the Hospital, as he entertained an opinion that it would be necessary to remove the part. At the time of his admission the testicle was much enlarged and hardened; but there was at this time no affection of the spermatic chord, nor of the epididymis, excepting that part which is in immediate connexion with the back of the testicle, which was of considerable size, and communicated to the touch a firmness and hardness throughout. After a particular examination, the man felt some uneasiness, and latterly he complained of occasional lancinating pain. His general health was good.

On admission, he was ordered to apply six leeches to the testis, and to take half a grain of the extract of opium, with one grain of calomel every night.

May 5. Much the same: ordered to rub in mercurial ointment.

21. The testicle remains in the same state. There is a little soreness of the gums. Ordered to apply eight leeches, and to take half a grain of opium with one grain of calomel three times a day. Sir Astley Cooper has seen the patient, and expressed his opinion that the disease is of a fungoid character, and advised its removal.

June 9. The patient states, that there is some abatement in the size of the testicle. The lancinating pains he complained of shortly after his admission, are rather more frequent. Ptyalism has been excited and kept up for a few days; the true nature of the disease is becoming daily more palpable. Ordered to apply twelve leeches to the testis.

On the 11th he was cupped upon his loins, and a blister was afterwards applied. The pills were discontinued. Within the last month the patient's countenance has assumed the sallow tint, which is so characteristic of malignant disease.

On the 18th the testicle was removed. There was nothing remarkable in the operation.

23. The wound is healing, and the patient is doing well. The testicle, on dissection, presented the appearances usually found in fungoid disease. There were a number of hydatids found on cutting it open, and the epididymis was converted into a fungoid mass.

CHRONIC INFLAMMATION AND SUPPURATION OF THE KNEE JOINT, ENDING FATALLY.

Josiah Shergold, ætat. 48, much emaciated, was admitted into Cornelius Ward, on the 15th of April, under the care of Mr. Key. The patient stated, that about four years ago he received a kick upon his knee. In a few days it began to swell, and he then felt a dull pain in the joint, which incapacitated him from attending to his duty. The pain and swelling increasing, he consulted a surgeon, by whose order the part was leeched and cupped, and subsequently blistered, with much benefit, so that, in a short time, he was enabled to follow his employment. Being a police officer, his duties compelled him to use foot-exercise a great deal, and also exposed him to the different changes of the weather, and in a short time he experienced a return of the pain and swelling. During the last two years the swelling had gradually increased, and his health became affected. In the interim, similar measures were resorted to as at first, but with temporary benefit only. His previous habits of intemperance paved the way for the extension of the disease; and last October, being unable to work, he applied at the hospital for admission, and was taken in under the care of the Junior surgeon. The treatment pursued at that time consisted in the application of counter-irritants, and the administration of medicines to improve the general health. At the expiration of a fortnight, he became so much better, that he left the hospital, and resumed his employment. In a few weeks, however, being much exposed to wet and cold, the

joint again became worse, and, at Christmas, he was compelled to keep his bed. Shortly afterwards the inflammation increased, and extended itself up the thigh, and also downwards, upon the inner side of the leg. Matter soon formed; the suppurative stage was ushered in by repeated shiverings and fever, and the pus escaped through a small sinuous opening, on the inner side of the tibia, about three inches below the knee-joint. During this time, he became decidedly hectic; his nights were sleepless, the bowels were irregular, and his appetite depraved, and he became considerably emaciated. The sinus, below the knee, was found to communicate with the joint, and there was also a sinus extending a considerable way up the thigh. The joint itself was much enlarged, and excessively tender. All voluntary motion was destroyed, and the least attempt created the most severe pain. The muscles of the leg were much wasted.

The limb was carefully supported by pillows. A poultice, made of the leaves of the *conium maculatum*, was applied to the knee. The thigh was ordered to be supported by strips of soap cerate and bandage, to endeavour to promote cohesion of the sides of the sinus, and to give support to the muscles. The patient was ordered to take *ten grains of the compound powder of ipecacuanha every night.** He was allowed a generous diet, with wine and porter.

22. The man has decidedly improved. He sleeps better; his appetite has increased; the bowels are regular; the pulse is small and quick; the knee is less painful and tender, and the discharge is less copious. He expresses much relief, from the application of the poultice. Pergat.

30. The patient has been slowly and progressively improving. He sleeps well; the tongue is clean; the bowels are quite regular, and his appetite good; the knee is less painful, and the discharge has gradually decreased; the sinus above the knee appears to be healing; he can bear the part to be examined, without much pain. The matter secreted is of good consistence, and apparently healthy; and it is hoped, that under this improved condition of his health, should it continue, anchylosis may eventually take place.

May 3. On visiting him to-day, he tells us that he has not been so well for the last three days. His nights are restless; the knee has become more painful; the discharge very copious, and the opening below the knee has increased to a considerable size, forming a very extensive ulceration. His appetite now fails him very much, and emaciation goes on rapidly. He was ordered to take *two ounces of the infusion of serpentary three times a day,** and to continue the wine and porter.

26. Since the last report, the poor fellow has been gradually getting lower and lower. Diarrhœa has now supervened. Ordered to take the chalk mixture, with the aromatic confection, and ten drops of the tincture of opium every four hours. The patient lingered till the 3d day of June, when he expired.

No inspection was made, the body being removed by the friends soon after death. There is no doubt, however, but that the bones of the articulation were carious, as they could be felt to grate against each other, whenever the limb was moved; the discharge, during the last month of his life, had a most unpleasant odour.

* By way of relieving the colliquative sweats—Eh?

ST. THOMAS'S HOSPITAL.

CASES OF RHEUMATISM CURED BY ACUPUNCTURATION.

Case 1. Thomas Campbell, aged 32, was admitted into Abraham's Ward, on the 29th of May, under the care of Dr. Elliotson. He had been ill nine weeks, and now complained of much pain in the left arm and leg; these extremeties were somewhat swollen, and very stiff; the right fore-arm and wrist were also slightly affected; the parts very cold, and much relieved of pain by the application of warmth; bowels regular, and pulse rather fuller than natural. Dr. Elliotson immediately ordered acupuncturation in the left hip and outer part of the thigh, with two needles, for two hours daily.

31. The pain in the left arm much as before. The left hip considerably easier; thigh no better; the acupuncturation still continued.

June 3. The left lower extremity and hip are evidently greatly improved; no pain in the right fore-arm or wrist; the left arm much the same; acupuncturation now ordered to be performed in the outer part of the left upper arm, with one needle for two hours daily, and to be continued in the left hip and thigh with only one needle.

Under this mode of treatment the pain ceased, and the parts gradually resumed their former strength and mobility. On

* Will the Senior Surgeon be so obliging, as to inform his fortunate pupils what he expected from the use of this medicine.

the 14th of June the patient was quite well.

Case 2. Thomas Bouler, aged 44 years, admitted into Abraham's Ward, on the 29th of May, under the care of Dr. Elliotson—had been more or less affected with rheumatism in the loins for the last three years; had been blistered nine times for the present attack. There was great pain in the lower part of the back, accompanied by cold, creeping sensations; pain increased by motion; pulse rather quicker than natural. Acupuncturation was ordered in each lumbar region, with one needle for two hours daily.

On the 30th, the patient was better in every respect; and on the 3d of June, he was quite well, and he was discharged.

Case 3.—Charles Underwood, aged 32 years, admitted into Isaac's Ward, under the care of Dr. Elliotson; had been ill, occasionally, for the space of seven years, during which time he had been affected with two paralytic affections of the right side. These, in the course of time, had been succeeded by a chronic rheumatism, which, after existing about six months, gradually subsided, and he remained from that period free from either palsy or rheumatism, until the present complaint, for which he had been cupped thirty-seven times without effect, previous to admission. There was now pain in the loins, shooting along the spine, hips, and thighs, and occasionally the groin; retraction of the testicles; the urine scanty, and of a muddy brown colour; great pain on pressure over both kidneys, especially the left; bowels very costive. He was ordered to take, three times a day,—

Colchicum wine, half a drachm,
Carbonate of soda, one scruple.

Jan. 3. The pain in the loins somewhat less severe, having now become more of a dull aching character; the urine much increased in quantity; had one stool this morning, of a very costive nature; urine not so muddy or brown, but more of a pale colour. The soda was omitted to day, and the vinum colchici continued.

On the 12th, the urine was again more turbid, with a lithic sediment; the colchicum was repeated.

14. The pain was stated to be much less severe in the day time than at night; the pain in the whole, however, much as before; the patient had been purged. Acupuncturation was now ordered over the region of each kidney, with two needles, for two hours daily, and the colchicum wine to be taken in doses of fifteen minims.

19. The pain was greatly relieved generally; eight leeches were ordered to each lumbar region, and acupuncturation daily.

21. The urine was quite healthy; the pain was every where diminished to a great degree; and from this period the patient continued to mend, so that, on the 29th, he was ordered an emplastrum thuris, and was dismissed.

CASE OF CHOREA, SUCCESSFULLY TREATED WITH THE SUBCARBONATE OF IRON.

Charlotte Allbut, eleven years of age, was admitted into Elizabeth's Ward, under the care of Dr. Elliotson, on the 23d of February. She had continual pain in the forehead, occasional darting pains through the head, and tenderness of the abdomen increased on pressure. Her bowels were regular; the tongue was red at the tip and edges; the speech was indistinct; the muscular contraction general, and frequent. She was quite incapable of standing. Ordered to take *two drachms* of the subcarbonate of iron three times a day.

On the 27th, there was some amendment. The iron was now prescribed in the dose of half an ounce, to be taken every four hours.

On the 1st of March, the girl was, in every respect, better; the speech was much more distinct; she could nearly stand alone; indeed could, by means of assistance, walk a little. The headach had entirely ceased.

On the 18th, having for some time previously progressively improved, there was again slight pain in the head, and the bowels were much confined. She was directed to take a dose of house-medicine, and to continue the carbonate of iron, after the operation of the purgative.

On the 22d, she was much better; and, on the 8th of April, she could articulate very well, and walk pretty firmly. The medicine was ordered to be taken only three times a day, on the 3d of May. On the 6th, the girl was pronounced well.

On Friday evening, about seven o'clock, William Landcake, an old man, nearly 65 years old, was brought into George's Ward, with a *strangulated scrotal hernia*. The hernia had occasionally protruded for the space of two or three years, but he had always been able to reduce it himself. On this afternoon, however, while at work, it descended, and after continued fruitless attempts on his own part to return it, he was conveyed to the hospital. At this time, he was labouring under very acute pain in the part; had frequent vomiting, hot skin, and quick pulse. The dresser used the taxis for some time, without success. Mr. Green was sent for at nine o'clock; he ordered a warm bath, and bleeding in the bath *ad deliquium*, which occurred after about thirty ounces of blood had been drawn, and then by means of the taxis, the hernia was reduced in a very short time.

There have been no operations this week. A few accidents have been entered, but none having anything particularly interesting as regards their nature or treatment. The surgical cases admitted, during the last few weeks, have been of a very commonplace kind.

ST. BARTHOLOMEW'S HOSPITAL.

SCIRRHOUS ENLARGEMENT OF THE LACHRYMAL GLAND.

On Friday, June 20th, Mr. Lawrence showed the pupils a diseased lachrymal gland, which he had, the day before, removed from a gentleman, about thirty years of age. The diseased gland was much larger than a walnut, having an irregular surface; it felt hard and incompressible, and, when cut into, presented a dense, compact stricture of schirrous firmness, and of a light grey colour. Mr. Lawrence observed, that it was supposed, and had been stated, that the lachrymal gland was affected with cancer; this, however, according to his experience, was not the case. The morbid production exhibited all the marks of carcinoma, but, in his opinion, it was never malignant, and it most essentially differed from it in other respects. It never affected the adjacent parts, neither the lymphatics nor absorbent glands, nor had he ever seen it pass into the ulcerative state. The present case was precisely similar to one which he had some time since under his care at the Eye Infirmary, and in which he had extirpated the lachrymal gland; in both the disease had been of slow formation, (in the present six or seven years,) unattended by any severe pain, and had occurred in young persons. It is worthy of remark, that in both cases there was no dryness of the eye, but, on the contrary, an increased lachrymal discharge. In the patient operated upon by Mr. Lawrence, at the Eye Infirmary, no inconvenience whatsoever followed the loss of the gland, and the eye continued moist. In the present case, the eyeball was pushed downwards and inwards towards the nose, so that its whole diameter was below the natural edge of the lower lid, yet it was covered almost entirely by the upper lid, by the pressure of the tumour on the eye and optic nerve; the latter must have been extended, and hence was explained the impaired state of vision. After the removal of the tumour, globe retired to its natural situation, and vision is improved. Mr. Lawrence observed, that it was important to remark, that before the operation, the tumour appeared small, hard, and scarcely moveable, giving an idea that it originated from the bone, and that it would be very difficult to remove it; it was found, however, to be connected with the bone by intervening condensed cellular tissue, and the gland was removed without difficulty.

WARTY DISEASE IN THE PERINEUM—OPERATION.

On Monday, June 16, Mr. Lawrence removed a warty excrescence from the perineum of a man, aged 57, a gardener. The disease greatly resembled that which is produced by the irritation of soot applied to the skin, and has hence been termed "soot wart," or "chimney sweeper's cancer;" but it cannot be attributed to this cause, as the patient states he has never used soot. Three months ago he perceived a small wart below the scrotum, which he picked off; ulceration soon took place; it discharged a thin ichorous fluid, and was attended with great itching. The disease gradually extended downwards, and when he was admitted into the Hospital, May 16, there was a large warty excrescence, occupying nearly the whole of the perineum, extending from below the scrotum to near the verge of the anus. There was copious discharge of a thin ichor, excoriating the skin. The surrounding integuments were indurated, and the glands in the groin were enlarged; his health was good, and he had not suffered much pain. Various local applications were used, but without benefit; and, as the disease was extending, Mr. Vincent saw the patient, and concurred with Mr. Lawrence as to the propriety of its removal. The patient was secured, as in the operation for lithotomy; an incision was carried round the diseased skin, and the whole was dissected off the urethra. For a few days the patient had difficulty in passing his urine, and it was drawn off. The enlargement of the inguinal glands has nearly subsided; there has been slight inflammation and sloughing of the wound, but it is now (June 23) clearing, and presents a granulated surface.

On the same day, Mr. Lawrence performed amputation of the thigh, in a case of compound fracture of the tibia, and removed a diseased breast. We shall give a detailed account of the latter case.

WESTMINSTER HOSPITAL.

FUNGOID TUMOUR OF THE EYE, EXTIRPATION OF THE ORBITAL CONTENTS, AND FATAL TERMINATION.

John Burrows, ætat. 65, was admitted into this Hospital, under the care of Mr. Guthrie, on the 11th of June, on account of

a fungoid tumour of the right eye. He states that he served in Egypt many years as a soldier; when there he suffered much from ophthalmia, occasioned by the sand getting into his eyes, which completely destroyed the vision of the right and also that of the left for a time, but the latter he fortunately recovered in a year afterwards. He had no tumour of the right eye until last Christmas, when he was knocked down by the pole of a carriage, which struck him in the corner of the orbit. In a few days afterwards he was seized with a violent fit of coughing, in the midst of which, as he describes it, he felt the eye give way, which occasioned great pain, from that time the eye continued to enlarge until it attained the present enormous size. The tumour protrudes about an inch and a half beyond the orbit, and is about three inches in circumference. Since he has been in the Hospital it has discharged a considerable quantity of very thin pus; there has also been a slight hæmorrhage; the patient's constitution is not in a very good condition, he complains of great pain in the eye, and cannot sleep. Mr. Guthrie, after examining the man, said that he could not exist for any length of time without an operation. He therefore, with the consent of his colleagues, proposed extirpation of the orbital contents, as the only means by which he could endeavour to save the patient's life. The poor fellow readily consented, and the operation was performed on Monday the 15th of June. Mr. Guthrie experienced considerable difficulty in clearing the orbit of several small black specks which remained behind after he had removed the globe; the patient appeared to feel excruciating agony at the moment of dividing the muscles and nerves: the ophthalmic artery bled profusely during the performance of the operation, but the hæmorrhage was afterwards stopped by placing small pledgets of sponge in the orbit; the palpebræ were then brought together, and a compress of lint was placed over them, which was secured by strips of adhesive plaster, and a bandage round the head. The operation was well performed. About an hour after the operation the patient appeared very tranquil, but complained of a slight smarting pain in the orbit. Pulse about 55, and scarcely perceptible. Ordered forty minims of laudanum at night.

June 17. Has passed a very restless night, and became speechless towards morning; was then bled to eighteen ounces from the arm; the blood exhibited a very buffy coat; about the middle of the day he was in a completely comatose state; his head was ordered to be shaved, and a cold lotion to be applied to it; his pulse in the morning was about 90, in the evening 140 He died at eleven o'clock this evening.

Examination of the body twelve hours after death.

The vessels of the dura mater were very much distended with blood; upon removing the pia mater a quantity of pus escaped from between it, and the tunica arachnoides; the substance of the brain, particularly the anterior part, and the cerebellum, participated in the same kind of disease as that of the eye; the optic nerve was much smaller than usual; the other nerves did not appear to have become affected by the disease; the liver exhibited a most excellent specimen of dark-coloured tubercles, some very large, others exceedingly small; nothing else of any consequence appeared during the examination.

DISTRIBUTION OF PRIZES AT GUY'S HOSPITAL.

The first examination which took place, was for the annual surgical prize given by Mr. Key. On this occasion the candidates were respectively presented with a subject, to which his examination was exclusively confined, and thus an opportunity was afforded for ascertaining the real knowledge of the competitors, a method very superior to that of an examination, including all the departments of surgery, in which the questions must of necessity be superficial. Mr. James Edgecome was successful in the contest, and acquitted himself in a very creditable manner, during a long examination on the complicated subject of hernia, and was presented with a handsome case of surgical instruments, bearing an appropriate inscription.

The examinations for the prizes in anatomy, given by Mr. Bransby Cooper, took place on the following days; Mr. Bacon and Mr. Guy were the candidates for the senior prize, and rendered the examination highly interesting, by the manner in which they vied with each other in the accuracy of their answers. So uniform, indeed, were their merits, that it was impossible to make a distinction between them. Mr. Cooper, therefore, presented each of them with a prize of the same value.

The junior anatomical prizes were more numerously contested than either of the others, and the able manner in which the answers were given on this occasion, reflected the highest honour on the competitors.—here, too, the merits of two of the candidates, Mr. Hughes and Mr. Tweedie, were so equal, that Mr. Cooper found himself obliged to deviate from his usual custom of giving two prizes of unequal value, and awarded one of the same worth to each of those gentlemen.

A Case where, after the Excision of an Anastomosing Aneurism from the Right Temple, Ligature of the External Carotid became necessary to restrain Hæmorrhage. By GEORGE BUSHE, M.D. of the Royal College of Surgeons in Ireland, and Assistant Surgeon to the Forces.

MARIA NORTHWOOD, ætat. two years and seven months, in April 1827, was brought to me by her mother, in consequence of a purple pulsating tumour about the size of a pigeon's egg, situated on the right temple, and which I was informed had existed and gradually enlarged from her birth, being for the last three months attended with repeated attacks of hæmorrhage. I recommended the removal of the aneurism, but the parents would not consent; however, on the 28th May, alarming bleeding having occurred, the parents called on me, and anxiously solicited the proposed operation. On examining the temple, I found that the tumour had considerably enlarged, and was ulcerated at its superior and anterior part; therefore, assisted by staff-surgeon Quincy, who made pressure on the carotid, I removed the aneurism (which laid above the temporal fascia) with a few quickly-executed sweeps of a scalpel. During this period very little blood was lost, but when the pressure was taken from the carotid, almost every point of the new surface projected a column of blood, so that an attempt to secure any vessel with a ligature would have been in vain, therefore I made direct pressure, by means of a portion of sheet lead cut to the shape of the wound, and wrapped in old linen, which, for the time, answered the purpose; but at eleven o'clock, P.M. bleeding ensued, and on removing the dressings, the wound presented the same aspect as immediately after the operation. By pressure on the carotid, I restrained the hæmorrhage, and having no professional assistant or instruments at hand to enable me to place a ligature on the vessel, I determined on the application of the actual cautery, which apparently was successful; but at ten o'clock on the following morning the bleeding again returned, and was so alarming, that after a short consultation with Mr. Quincy, I proceeded to secure the external carotid, which was soon effected above the tendon of the digastric muscle, by a single ligature; the lips of the wound were then brought into contact with two points of suture, and the temple lightly dressed. From this period there was no hæmorrhage or other bad symptom; the ligature was cast off on the 13th day, and in three weeks both wounds were healed.

Two questions may be asked concerning this case, viz. 1st. Could not a cure have been effected by double ligature of its base? 2dly. Did I act judiciously in adopting the line of practice recommended by Mr. J. Bell? These questions I shall now answer as follows:—1st. The base of the aneurism was too extensive for treatment by ligature, and its acuminated disposition would offer an insurmountable bar to the application of a ligature, or two ligatures on its base; 2d. In following the dictates of Mr. J. Bell, viz. of removing the tumour, I acted injudiciously, as the result of the case proved; but had the patient been older, in all probability excision would have answered: therefore, until convinced to the contrary, I shall in future trust to ligature of the external carotid in such cases; and here I may say, that where the disease is not in the orbits, I cannot see the necessity of securing the common carotid for anastomosing aneurism of the face and head. But this line of proceeding, which I have repeatedly witnessed, was adopted, I believe, from the greater facility of its execution, a circumstance which the operating surgeon should be ashamed to harbour in his mind.

Chatham, April 17th, 1828.

REMOVAL OF THE TARSAL BONES, AND COMPLETE REMOVAL OF CARIOUS RIBS FROM THE SAME PATIENT.

THIS case is so highly interesting and wonderful that we are induced to transcribe it literatim et verbatim.

"Betsey Gray, a young woman of scrofulous diathesis, at the age of eighteen, when in delicate health, was in March, 1823, exposed to inclement weather.

About three weeks after, she experienced frequent pain of the right foot, and was perpetually troubled with uneasy sensations of the foot and leg; the foot regularly swelled during the day, and subsided at night. Such was her case without much variation, until May, when pain became more intense, the swelling increased, and a sinus formed near the anterior articulation of the os cuboides.

In the spring of 1824, an abscess appeared on the right side of the chest, about the seventh rib, which her attending physician endeavoured to discuss: pus, however, effected its discharge in the following September, first, by a sinus situated about four inches from the anterior end of the rib, and some weeks after, by another situated at the angle. Such is the account given by Miss Gray of the early stages of her disease, which continued, with but little variation, under different plans of treatment, pursued by several physicians, until March, 1827, when she was brought to town, and came under my care. There were, at this time,

five issues from the foot, two from the os calcis, one from the cuboides, and two from the ossa cuneiforme; all communicating with one another; fluids injected into any one of them issued from the other. Through none of those openings was I enabled to examine the condition of the astragalus; all their courses tending below it, suggested the hope that it was sound.

As, from Miss Gray's own account of her case, the disease of the foot was ten or twelve months prior to that of the side, I conceived the latter might owe its origin and its maintenance, at least in part, to sympathy with the former; and my recommendation of removal of the carious bones of the foot was predicated in the hope, that removal of this source of excitation, might produce such a change in the side as would cause the rib to exfoliate or resume healthy action, as in Miss Harvey's case. As there were no symptoms indicating disease of the leg bones, and as there were grounds for hope that the astragalus might be sound, in preference to amputation, removal *only of the diseased bones of the foot was advised*, well convinced from my experience of the power of nature in such cases, that bones would be speedily reproduced, or such other substance as would better supply the deficiency, than any mechanical contrivance we could substitute for a leg.

April 3. With the assistance of Drs. Caruthers, Shanks, Weir, and Preston, all the tarsal bones were removed; they were so completely carious and soft, that they were easily crushed between the thumb and fingers, the astragalus not excepted; no part of their structure retained the natural appearance, but their cartilaginous articulating surfaces. On their removal the bones of the leg were found so much diseased, that the finger met but little resistance, in passing its full length up into the tibia; whereupon, with as little delay as practicable, the leg was amputated below the knee; but disease was not yet circumvented, remaining portions of both bones were thoroughly carious. It was now concluded to remove the remaining portions of the tibia and fibula, and examine the os femoris, to ascertain whether that bone was sound. Finding that it was so, and my patient being much exhausted, I trimmed off a considerable portion of cartilaginous surface from its articular condyles, and neatly adjusting the ample flap I possessed, I dressed the stump.

No uncommon symptoms ensued,* as much of the wound as usual, healed by the first intention, the occasional discharge of synovia probably retarded the subsequent healing process; but in six weeks it was completely cicatrized.

Removal of carious Ribs.—Miss Gray's side now became an object of interesting attention; it remained in statu quo. Hectic fever, under which she had already laboured when she first came under my care, was excited and increased by the hot weather; colliquative diarrhœa came on, the discharge from her side, always extremely fœtid, grew more so; her strength declined daily.

From many careful examinations, I became satisfied that the caries of one or more of the ribs was to the extent of six or seven inches. From the anterior to the posterior opening, injected fluids readily passed; but not vice versa. The lungs were involved in the disease, as was evident from a troublesome and alarming cough, with purulent expectoration, with which she was and long had been much harassed; and which caused me to remark to her that the removal of those ribs would afford a prospect of its relief. She caught at the prospect with avidity, and urged the operation, which she was much encouraged in by the concurrent opinions of other physicians who visited her.

Fearful of the result, her case being a very unfavourable one to success, I for some time parried her solicitations. I very much doubted whether the existing disease in the lungs might not be too extensive to admit of cure even after the caries, which I considered the proximate cause, was removed. Finally, however, I consented to operate.

Never having seen a detailed mode of operating for the removal of a rib, I made my first essay upon a dog, and found the operation less difficult than I had anticipated.

On the twenty-fifth of June, 1827, with the advice and assistance of Drs. Caruthers Shanks, and Jordan, the operation was performed.

An incision was made upon the seventh rib, from the posterior to the anterior sinus, bringing to view about six inches of its convex surface, discovering it to be in a state of complete necrosis. No formation of callus any where discoverable; after examination, the incision was carried forward about an inch and a half further, where the rib appeared sound, bleeding when scraped. Having completely divested it of its periosteum, I here passed an *elevator* under the

* I apprehended less danger in thus exposing the cavity of a large joint, than most writers on this subject would lead us to forebode, owing to experience derived from my manner of treating white swellings and wounds of large joints, from which I freely evacuate pus, believing that by confinement this matter becomes erosive, I willingly admit air (if it must needs be so) as a substitute; and my success, I think, has warranted the practice.

rib and between it and its periosteum, and divided it with Hey's saw. The incision was then extended back to the spine, and the rib was there detached from its articulation with the vertebræ. At this part of the operation much care was used to avoid wounding the dorsal nerves.

On further examination, the sixth rib was found in like manner diseased, and was in like manner removed. Underneath this rib, a little anterior to the angle, a sinus communicating with the lungs was discovered: a hole about the size of a goose's quill, which emitted a great quantity of matter, discharging with more freedom when she coughed.

From reviews I have seen of operations to remove carious ribs, as performed by Cettadini and Richerand, securing the intercostal arteries seems to have constituted a difficulty.

In this operation I was not under the necessity of applying a ligature to any blood-vessel, the intercostals lying between the pleura and the periosteum were made perfectly secure by interposing the elevator, as above stated, between the periosteum and the rib.

After removing as much of the diseased soft parts as was deemed prudent, the wound was closed with the interrupted suture, and adhesive strips covered with lint and secured with a roller. Inordinate inflammation was completely prevented by two small bleedings, and maintaining a loose state of the bowels.

Examination on the fourth day discovered about four-fifths of the wound to have healed by the first intention. No pain has been complained of since that time; the hectic declined, and disappeared in a few days; the cough has materially subsided, sometimes not troubling her for twenty-four hours together. An issue is maintained by tents, opposite the sinus of the lungs, through which a considerable quantity of matter, which appears to be a mixture of mucus and pus, discharges; this opening will be maintained until the lungs are entirely relieved.

On the 15th August, she left town on a visit to Digu's Sulphur Spring, a trip of twenty-two miles, which she made in a rough Jersey wagon, without complaining of fatigue. I visited her on the 22d, her cough had mended, her appetite and strength had increased, and her general health and appearance had visibly improved. She rides daily to the spring on horseback, a distance of more than half a mile from her lodgings.

The portions of rib removed had suffered internal necrosis. Their lamellated structure was, to a small extent, destroyed at several points; viz. at the anterior sinus, at the angle, and at the neck; but most at the angle."

CÆSARIAN OPERATIONS IN GERMANY.

To the Editor of THE LANCET.

SIR,—I am surprised to find the following remarks in the 250th Number of THE LANCET:—"Our readers will perhaps be surprised at the frequency of the Cæsarian operation in Germany, but this circumstance arises from a consideration (now sanctioned, if not first engendered, by legal enactment) that the life of the child should not be sacrificed, even with the fair prospect in view of saving the life of the mother." I can assure you and your readers, that no such law exists in any German state, and that in Germany, as in this country, the expediency of destroying the child is always left to the judgment of the medical attendant.

I am, Sir, yours, &c.

C. M. KIND.

5, West Street, Finsbury Square,
June 23, 1828.

[We feel much obliged to Dr. KIND for this correction.—ED. L.]

ON DISEASES OF THE BONES—AMERICAN SURGERY.

A RECENT number of the American Medical Recorder contains a long dissertation on the pathology of the bones, by Dr. W. M'Dowell, of Fincastle, Virginia. The opinions broached in this paper are singularly opposed to prevailing doctrines, and the practice adopted in the various cases which are related, presents a striking contrast to the ordinary methods of treatment. It is the opinion of Dr. M'Dowell, that the *vis vitæ* of bones, generally speaking, is inadequate unassisted, to relieve them from diseases which have destroyed any portion of their structure; and, consequently, that the manual interference of the surgeon is, for the most part, absolutely necessary. It is, perhaps, scarcely requisite for us to remark, that the reverse of this opinion is held by the highest authorities; that the *expectant* plan of treatment is more generally adopted in respect to diseases of the bones, than in any other class of maladies.

Dr. M'Dowell, however, says, that he is "well satisfied", the pathological views of the most celebrated authors on diseases of the bones are incorrect, and he thus proceeds to state his own. By the term "*necrosis*," he means dead bone, from whatever cause arising, and he distinguishes affections of the lamella from those of the cancellated structure, by the terms external and internal. He conceives that *caries* "is of the same character with necrosis," in fact, that caries is merely necrosis of a smaller portion of a bone.

BOOKS RECEIVED FOR REVIEW.

On Deafness; its causes, prevention, and cure. By John Stevenson, Esq. &c. 8vo. pp. 262. Henry Colburn.

On the Curative Influence of the Southern Coast of England, with Observations on Diseases, in which a residence on the Coast is beneficial. By W. Harwood, M.D. 8vo. pp. 326. Henry Colburn.

A Disquisition on Living Animals, with an Inquiry how far our knowledge of Anatomy and Physiology is consistent with the belief of a Soul and Future Life. By George Warren, Surgeon. 8vo. pp. 144. Longman and Co.

An Inquiry concerning the Nature and Operations of the Human Mind, in which the science of Phrenology, the doctrine of Necessity, Punishment, and Education, are particularly considered. By James Jennings, Esq. 8vo. stitched, pp. 53. Poole and Edwards.

The Constitution of Man considered in relation to external Objects. By George Combe. Small 8vo. pp. 319. Anderson, jun., Edinburgh.

The Evidences against the System of Phrenology. By Thomas Stone, Esq. 8vo. stitched, pp. 109. Maclachlan and Stewart, Edinburgh; Underwood, London.

On Tendency to Disease of Body and Mind in Refined Life, and the general principles of Cure. By Leonard Stewart, M. D. Small 8vo. pp. 96. Longman.

Elements of the Theory and Practice of Physic, designed for the use of Students. By George Gregory, M.D. Third edition; 8vo. pp. 696. Burgess and Hill.

Annual Address delivered before the Medical Society of the state of New York. By Romeyn Beck. M.D. 8vo. pp. 23. Websters and Skinners, New York.

Rattray's Botanical Chart. Allan, Glasgow.

Chemical Equivalents, designed for Medical Students and the Members of Mechanics' Institutions. By James Whitaker, Esq. Surgeon. London.

Medical Dissertations, by George Sigmond, M. D. Second edition, 8vo. pp. 135. Brettell.

A Rational Exposition of the Physical Signs of the Diseases of the Lungs and Pleura; Pathology and Diagnosis. By Charles J. B. Williams, M.D. 8vo. pp. 190. Underwoods.

Medical Botany, or Illustrations and Descriptions of the Medicinal Plants of the London, Edinburgh, and Dublin Pharmacopœias, including a popular and scientific description of Poisonous Plants. By John Stephenson, M.D., and J. M. Churchill, F.L.S. 8vo. containing 51 admirably executed coloured engravings. Churchill, London.

A Dissertation on the Nature and Properties of the Malvern Water, and on Scrofula and Consumption. By William Addison, Surgeon. 8vo. pp. 192. Callow and Wilson.

A Companion to the Traveller's Medicine Chest, on a new plan, for Travellers to the different Countries on the Continent, the East and West Indies, South America, &c. &c. By Richard Reece, M. D. 12mo. 163. Simpkin and Marshall.

Second Statement by the Council of the University of London, explanatory of the plan of Instruction. 8vo. pp. 168. Longman and Co. Taylor, Gower Street.

SUBSCRIPTIONS

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TO CORRESPONDENTS.

COMMUNICATIONS have been received from Mr. R. Williams—Dr. Howith—Dr. Seward—Mr. Millman—A Subscriber (2)—Mathetes—A Hater of Superstition—Verax—A General Practitioner—Mr. W. Wells—Δ.—J. W.—Caius.

* * No. * *

We are of opinion, that the certificates in possession of Mr. Jones would be deemed sufficient. Surely the Court would make an exception in such a case.

"Argus" is particularly requested to favour us with his name and address, confidentially.

"A. H." shall receive due notice of the trial. It will most likely take place in October. May TRUTH be triumphant!

We have our eye on the disgraceful proceedings at the Westminster, but deem it prudent to be silent, for the present.

As it is the wish of several correspondents, we will publish Carlisle's letter, if possible, in our next. But the poor Oyster is out of water, cannot absorb, and gapes in vain.

Mr. Fixott shall hear from us in the course of a few days.